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A Penton Publication

NEW EQUIPMENT DIGEST

THE LIBRARY OF CONGRESS SERIAL RECORD
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May, 1950
Volume 15—Number 5

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CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips — Pages 4 and 68

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

REINFORCED HUB WHEEL
suitable for fast rate of cut

Designed primarily for use on right-angle portable grinders and disk sanders in weld grinding and foundry operations, reinforced hub wheel combines exceptional strength and safety with durability. It is reinforced with layers of strong fibrous material between layers of alundum abrasive grain and resinoid bond. In addition, composition safety web molded onto back holds wheel together in event of accidental breakage until machine can be stopped. Made by **Norton Co.,** 200 New Bond St., Worcester 6, Mass.

▲ For more details circle **NED-3150** on enclosed inquiry slip ▲

STRINGLESS PACKING
is self-forming and self-lubricating

Furnished in rope form having diameter of ⅛-in., Steamfitter's Special packing forms itself into any size or shape of solid lead-like leakproof seal exact size and shape of fitting or pump stuffing box into which it is placed. It can be used on rotating and reciprocating rods, shafts, stems and joints handling steam for service up to 150 psi; air, gas, oils, gasoline, and refrigerants; and most acids, alkalies and solvents. Material is packaged on ½ and 2½-lb spools in self-dispensing boxes. Made by **Flexrock Co.,** 3603 Filbert St., Philadelphia 4, Pa.

▲ For more details circle **NED-3151** on enclosed inquiry slip ▲

DO YOU KNOW? Actual installations and typical production operations of Delta-Milwaukee machine tools, Crescent woodworking machines and Delta Multiplex radial arm saws are dealt with in 8-page illustrated semi-monthly technical publication "The Power Tool Journal". It will be sent free of charge to those writing on their company letterhead and giving their name and title. Write to Rockwell Mfg. Co., Power Tool Div., 614 E. Vienna Ave., Milwaukee 1, Wis.

▲ For more details circle **NED-3152** on enclosed inquiry slip ▲

DO YOU KNOW? Appearing same as any other door mat, new chime ringing mat causes bell or signal to operate whenever a person steps on it. Mat measures 2 x 3 ft or 2 x 2 ft and has beveled edge, stainless steel frame and easily-cleaned corrugated surface. Made by Nu-Way Signal Co., 4153 W. Division St., Chicago 51, Ill.

▲ For more details circle **NED-3153** on enclosed inquiry slip ▲

DO YOU KNOW? The RCA Metal Detector which warns of foreign metallic particles in any material being processed and can halt conveyor lines (*NED May* '46) is now being distributed nationally by Eriez Mfg. Co., 1325 E. Twelfth St., Erie, Pa.

▲ For more details circle **NED-3154** on enclosed inquiry slip ▲

DO YOU KNOW? You can obtain a periodic inspection chart which affords means of keeping accurate records of fire extinguishers to assure that they are in perfect condition for emergency use. Chart is available free from Ansul Chemical Co., 1 Stanton St., Marinette, Wis.

▲ For more details circle **NED-3155** on enclosed inquiry slip ▲

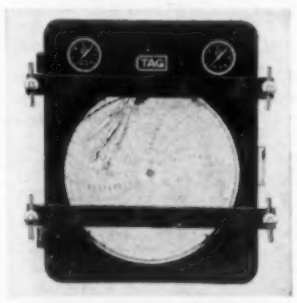
MAGNETIC BIT HOLDER
speeds screwdriving operations

Suitable for use on Keller rotary and types 12A-1 and 12D-2C pneumatic screwdrivers, holder not only keeps bits in place by magnetic attraction but holds screws in position for driving.

It consists of Alnico permanent type magnet set in nickel steel case. Insert bits of ¼-in. hex type can be used with holder and are quickly interchanged. Device is obtainable with straight drive, positive clutch and cushion clutch arrangements. Made by **Keller Tool Co.,** Dept. N, Grand Haven, Mich.

▲ For more details circle **NED-3156** on enclosed inquiry slip ▲

HUMIDITY CONTROLLER
regulates wet-bulb depression



Recommended for use in process industries and utilities, Tagliabue humidity controller utilizes psychrometric wet and dry bulb principle to regulate relative humidity automatically. Instrument will perform this function regardless of fluctuations in dry-bulb temperature. Two pens operate on circular 10-in. chart simultaneously recording dry-bulb temperature and wet-bulb depression. Flow of humidifying agent such as moisture, steam or oil fog is regulated by valve which is operated by control instrument. Made by **Weston Electrical Instrument Corp.,** 663 Frelinghuysen Ave., Newark 5, N. J.

▲ For more details circle **NED-3157** on enclosed inquiry slip ▲

PNEUMATIC ATOMIZING NOZZLE
clean-out needle prevents clogging

When plunger end at rear of nozzle is pushed, entire orifice passage of this ¼-J pneumatic atomizing nozzle is cleaned. Normal position of clean-out needle is 'open' under spring loading. Nozzle and clean-out assembly is available in variety of materials such as brass, stainless steel and Monel metal and can be supplied for internal or external mixing of air and liquid to produce round, multiple round or flat sprays. Made by **Spraying Systems Co.,** 3211 Randolph St., Bellwood, Ill.

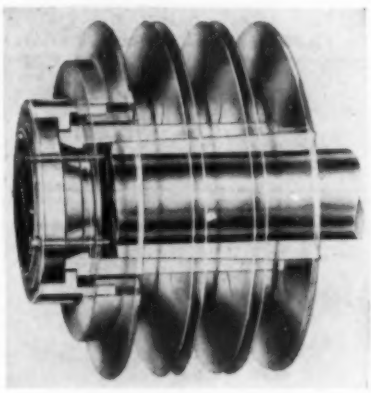
▲ For more details circle **NED-3158** on enclosed inquiry slip ▲

ALL-PURPOSE LUBRICANT
does not melt or break down

Nonmelting quality of Plastilube is illustrated by photograph which shows equal quantities of barium grease, at left, lithium grease, center, and this lubricant, at right, on hot plate with temperature reading of 345° F. In addition to this nonmelting feature, lubricant possesses great adhesive qualities, excellent pumpability at low temperatures and stability. Because it does not break down during working, it has long service life. Made by **Warren Refining & Chemical Co.,** Room 702, Finance Bldg., 750 Prospect Ave., Cleveland 15, O.

▲ For more details circle **NED-3159** on enclosed inquiry slip ▲

ADJUSTABLE-PITCH SHEAVE
has split-taper bushing and sleeve



Double-taper hub feature of this adjustable-diameter V-belt sheave adapts it to any shaft size and assures positive clamping on shaft and quick breakaway when dismounting. When bushing is pulled in tight to lock it on shaft, wedging action expands and locks taper sleeve against flanges and hub. Simultaneous movement of all flanges when settings are changed maintains V-belt alignment. Because there are no clearances when sheave is locked and operating, there can be no peening or fretting of metal parts. Sheave is immediately available in sizes for most standard and wide-range adjustable-diameter drives. Made by **American Pulley Co.,** 4245 Wissahickon Ave., Philadelphia 29, Pa.

▲ For more details circle **NED-3160** on enclosed inquiry slip ▲

PRODUCTION CONTROL DEVICE
records machine production time

Electrically operated model **C-1** Chronolog production control device produces printed record of machine productivity and idle time. It also counts work turned out and shows when, for how long and for what reason idle time has occurred. Recommended applications for this device include labor distribution, payroll accounting, determining machine efficiency, cost records, standards, scheduling and management controls. Made by **National Acme Co.,** 174 E. 131st St., Cleveland 8, O.

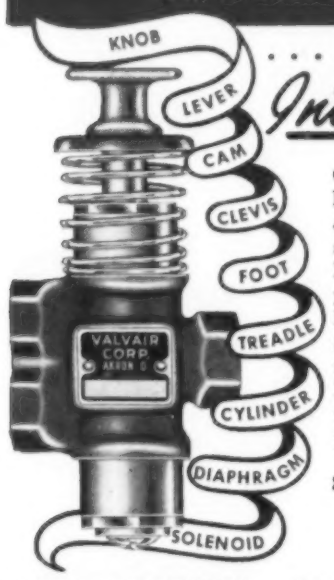
▲ For more details circle **NED-3161** on enclosed inquiry slip ▲

SMALL GASOLINE ENGINE
air-cooled 1 and 1½-hp models

By incorporating specially designed suction-type carburetor in conjunction with underslung fuel tank, this small air-cooled industrial engine achieves extremely low profile. It can be obtained as model AC-5 developing ¾ to 1 hp and as model AC-6 developing 1½ hp. Both models are single-cylinder four-cycle L-head engines having bore and stroke of 2⅛ and 2 in., respectively; displacement of 7.1 cu in. and compression ratio of 5.2 to 1. Power take-off end of crankshaft is equipped with ball bearings and cranking end with shoulder type replaceable bronze bearing with integral thrust face. Standard equipment includes oil bath air cleaner, dustproof and moistureproof Wico flywheel magneto, blower housing, muffler, 1-qt fuel tank, air-vane governor and rope starter. Recoil or kick starter assembly, remote throttle control, ignition lock and heavy-duty reduction gear are available as special equipment. Made by **Continental Motors Corp.,** 620-N Ford Bldg., Detroit 26, Mich.

▲ For more details circle **NED-3162** on enclosed inquiry slip ▲

VALVAIR GIVES YOU . . . *any* CONTROL ASSEMBLY ON A STANDARD VALVE BODY



. . . because parts are *Interchangeable*

Cylindrical ends on all valve bodies (in respective sizes) are identical, making possible *any control assembly.* Internally, stem, spacer, packer spreader, flange end bearings, and spring are interchangeable. Save on maintenance and stock; save by paying less for valves which embody standardized parts.

★ ★ ★

Sizes: 1/4", 3/8", 1/2", 3/4", 1".

★ ★ ★

Ask for Bulletin "A-N"

VALVAIR CORPORATION • 454 Morgan Avenue, Akron 11, Ohio
AFFILIATE: SINCLAIR-COLLINS VALVE CO.

Rely Upon Valvair — 2-WAY — 3-WAY — 4-WAY

For more details circle **NED-3163** on enclosed inquiry slip

SPECIFY LUMA SOLDERING TOOLS for DEPENDABILITY and SPEED on PRODUCTION WORK

The original and only pin point precision soldering tool for all types of soldering.

Production increases average 25 to 35% using LUMA METHOD of controlled concentrated heat.

Eliminate maintenance cost! Use the new time-saving method of soldering!

Terminal Work on a Production Basis

The resistance principle of heating is adaptable to all soldering requirements, offering savings not found by using other methods. Television, Telephone, Radio, Electronic and Motor Manufacturers are a few of the users who have found LUMA to be the solution for their soldering jobs.

NO OPEN FLAME—NO BURNS—NO COLD JOINTS

Especially adapted and recommended on soldering applications where core flux solder is used.

A size and type tool for every soldering or brazing job. Take advantage of our Free Two Weeks Trial offer and use a LUMA in your plant.

Representatives Wanted . . . some exclusive territories open.

LUMA ELECTRIC EQUIPMENT CO.
P. O. Box 132 NED — Toledo 1, Ohio

For more details circle **NED-3164** on enclosed inquiry slip

FREE! FLOOR-CARE BOOKLET

● Send today for this 8-page booklet packed with valuable information on all types of floors. Tells you how they're made — how to clean them — protect them — make them wear longer. Answers 101 questions. Saves you time and money! Every plant and office should have one.

MAIL THIS COUPON NOW FOR YOUR COPY!

MASURY-YOUNG COMPANY
76 ROLAND STREET, Dept. A
BOSTON 29, MASSACHUSETTS

Please send me your FREE FLOOR-CARE BOOKLET

NAME _____
(Please print clearly)
STREET _____
CITY _____ ZONE _____ STATE _____

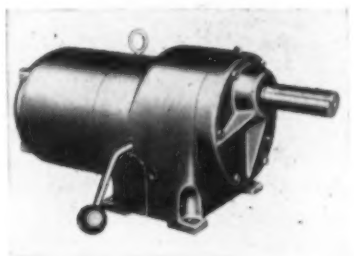
For more details circle **NED-3165** on enclosed inquiry slip

Have You a New Product?

The editorial columns of NEW EQUIPMENT DIGEST are open to all established manufacturers who wish to announce new or improved industrial products, materials, processes or literature. No cost or obligation is involved. Our selection of editorial material is based solely on the newness of the product and its application to the needs of our readers. We will be glad to send you information on how to submit news items on your new developments.

A. N. Gregg
EDITOR

GEARSHIFT DRIVE provides low multiple output speeds

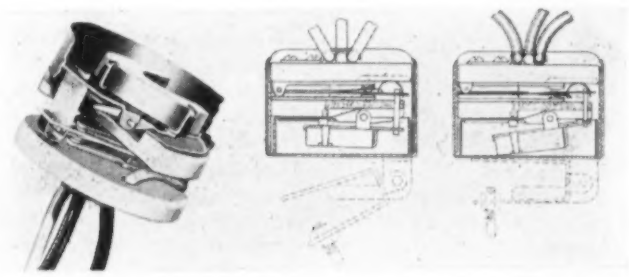


Designated as type R3C, this heavy duty gearshift drive consists of combination integrally-mounted electric motor and four-speed transmission having both primary and secondary gear reductions. Drive delivers full rated horsepower in each of four speeds, and both constant-torque and constant-horsepower two-speed motors are available. Primary selective gear ratios are 4.15, 3.15, 1.85 and 1 to 1. Unit is designed to operate on polyphase alternating current power supplies of standard frequencies and voltages below 600. Made by **Lima Electric Motor Co.,** Dept. AA-81, 301 Findlay Rd., Lima, O.

For more details circle **NED-3166** on enclosed inquiry slip

MAGNETIC PROXIMITY SWITCH contacts are rated 10 amp 110-v ac

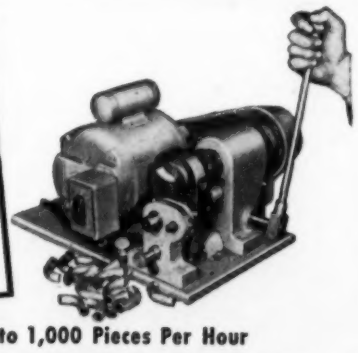
Enclosed in metal canister, this magnetic proximity switch employs toggle-type stack switch actuated by Alnico permanent magnet which is operated by armature



of magnetic material. Snap-action switch is of single-pole double-throw type and is attached to magnet by nonconductive link. Types are available to withstand temperatures of 175, 250 or 400° F, depending upon method of sealing and pigtail insulation. Switch can also be furnished with 3-in. conduit housing. Made by **Jo-Bell Products Co.,** 4842 S. St. Louis Ave., Chicago, Ill.

For more details circle **NED-3167** on enclosed inquiry slip

New PINES Tube & Rod END-FINISHING MACHINE SPEEDS WORK OUTPUT



Completes 500 to 1,000 Pieces Per Hour

A broad range of end-finishing operations can now be handled with speed and precision on this new Pines bench-type end-finishing machine. It embodies a new type mechanical chuck and chuck closing mechanism that cuts production time. Jaws are arranged for interchangeable split-type inserts to accommodate any length tube, pipe or rod.

Profitable Uses

- *Deburring*
- *Inside and Outside Chamfering*
- *Facing*
- *Center Drilling*
- *Drilling*
- *Reaming*
- *Single Point Boring*
- *Light Forming*
- *Turning*

Brief Specifications

Capacity: Up to 2" diameter—any length.
Cutters: 3 adjustable—4 to cover range.
Motor: ½ h.p. with step sheave.
Weight: 170 lbs.

3 Operations in 1 Motion of Handle

One movement of the operating handle quickly clamps the workpiece, removes the stock stop, and feeds the cutter to the work. Release of the handle returns the chuck to its original position and simultaneously unclamps the piece. Thus, with *one hand free for loading* the machine, an operator can speed work output.

For long-run work, there's a fully automatic Pines Model with foot-control to help you save additional time. Models up to 5" capacity are also available.

Write for free bulletin

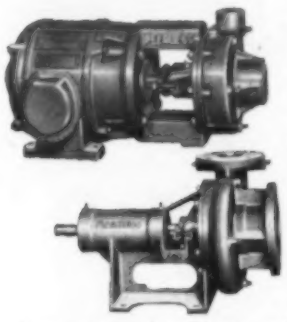
Get more facts today on this new, time-saving production tool. Find out how it will help you save time on your work.

PINES ENGINEERING CO., Inc.
Specialists in Tube Fabricating Equipment
640 Walnut — Aurora, Illinois

For more details circle **NED-3168** on enclosed inquiry slip

PUMPS...Versatile centrifugal for forced liquid circulation or transfer

Available from PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION



These end-suction, single stage, centrifugal pumps are available in two types for general utility duty, liquid pumping and transfer service. The Peerless Fluidyne Type PE is a space-saving unit with a close-coupled precision engineered pump and standard NEMA pump motor; the Peerless Type PB is the same type pump with supporting frame and bearing mounts for driving with direct coupled standard electric motors or for receiving pulley drive. Many of the parts are interchangeable between the two types so that a smaller stock of replacement parts is required in complex liquid circulating systems where several of both the PE and PB are used. Easy and fast disassembly and reassembly is an important feature. Capacities: To 5500 g.p.m. Heads: To 270 feet. Power drives: Fractional to 40 h.p. Request Bulletin.

PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION
Factories: Los Angeles, California, and Indianapolis, Indiana
Offices: New York, Atlanta, Fresno, Los Angeles, Chicago, St. Louis, Phoenix; Dallas, Plainview and Lubbock, Texas.

For more details circle **NED-3169** on enclosed inquiry slip

BROWNING Gripbelts

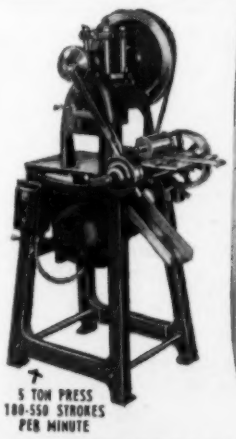
MATCHED AND SEALED FOR YOUR PROTECTION

Accurately matched to assure uniform performance and long life. Securely sealed with wire and lead slug to keep the set together until installed on the machine.

Nationwide Service—Write for the name of the BROWNING Gripbelt Distributor near you

BROWNING MANUFACTURING COMPANY
INCORPORATED
MAYSVILLE, KENTUCKY, U. S. A.

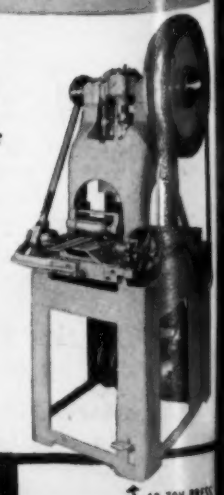
For more details circle **NED-3170** on enclosed inquiry slip



5 TON PRESS 180-550 STROKES PER MINUTE

$1250.00 INVESTMENT RECOVERED IN 83 WORKING DAYS

with DIEBEL HI-SPEED AUTOMATIC PRESS & DIE*



Production was boosted from 52,000 pieces to 95,000 pieces per day. Maintenance charges were reduced and floor space requirements cut. Costs were permanently lowered and a better competitive position reached. This is what a manufacturer accomplished by replacing conventional equipment with our Hi-Speed Automatic Press.

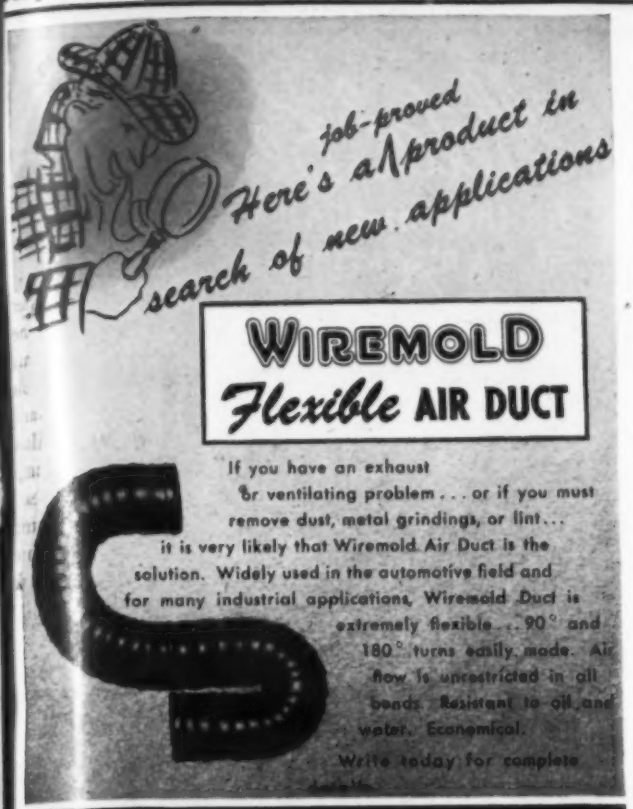
Ask Us What We Can Do For You

*Die designed and built in our modern tool room.

DI MACHINE CORP.
2701 IRVING PARK ROAD, CHICAGO 18, ILL.

12 TON PRESS 65-300 STROKES PER MINUTE

For more details circle **NED-3171** on enclosed inquiry slip



THE WIREMOLD COMPANY
HARTFORD 10, CONNECTICUT

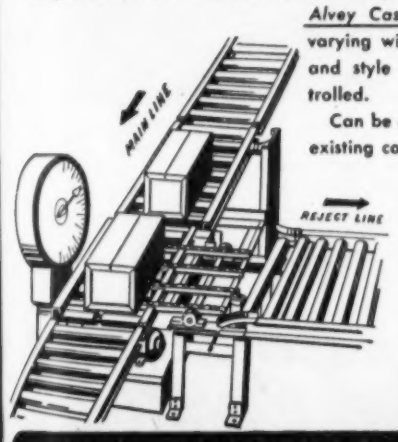
For more details circle NED-3172 on enclosed inquiry slip

ALVEY a new case rejector

Packages must be accurate to a prescribed weight, or they are removed for correction. Underweight packages are automatically detected and removed from a main production line, by an *Alvey Case Rejector*. Built in varying widths to suit the size and style of case to be controlled.

Can be easily installed in an existing conveyor line.

Upon request we will mail questionnaire for engineering data. Ask for bulletin CR-A1.



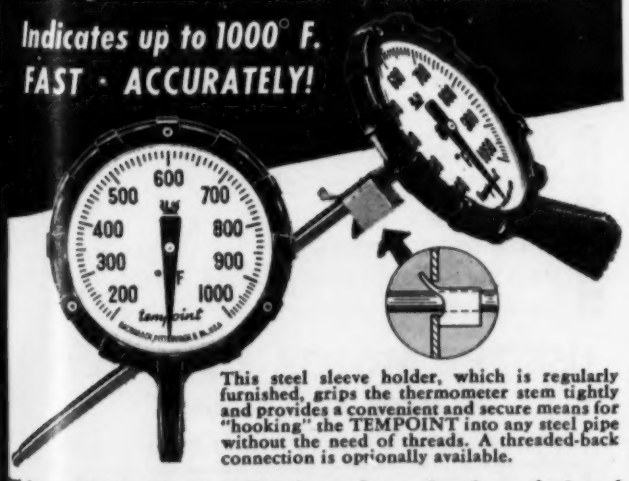
ALVEY Engineered... PACKAGE CONVEYING

ALVEY CONVEYOR MANUFACTURING COMPANY
St. Louis 24, Missouri · Sales Offices in Principal Cities

For more details circle NED-3173 on enclosed inquiry slip

tempoint Dial Thermometer

Indicates up to 1000° F. FAST · ACCURATELY!



This steel sleeve holder, which is regularly furnished, grips the thermometer stem tightly and provides a convenient and secure means for "hooking" the TEMPOINT into any steel pipe without the need of threads. A threaded-back connection is optionally available.

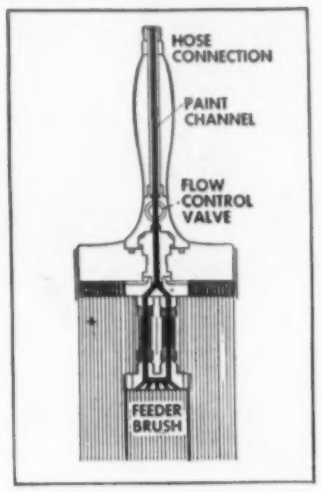
This precision bi-metal dial thermometer has been designed specifically for flue gas and exhaust gas temperature readings. It is equally well suited for all other applications requiring high temperature tests up to 1000° F., over an exceptionally wide range. It is outstanding for its fast response, permanency of calibration, and easy readability.

The three-inch diameter face with large numerals and clear graduations together with the red V-shaped pointer make the TEMPOINT exceptionally easy to read, at a distance and in dimly-lit locations. The stem is 3/16" O.D. and is available in 5½" or 9" free length. Write for descriptive Leaflet 780.

BACHARACH INDUSTRIAL INSTRUMENT CO.
7000 Bennett Street · Pittsburgh 8, Pa.

For more details circle NED-3174 on enclosed inquiry slip

PRESSURE FED PAINT BRUSH for large scale industrial painting



By having material present on working edge of brush in uniform volume at all times, Stream-Flo pressure fed paint brush eliminates stopping and dipping into paint pot. Brush is handle-fed through hose connected to any standard pressure equipment or ordinary carbon dioxide cylinder. Pressure of 20 to 30 psi is usually sufficient, depending on length of hose used. Paint flows through hose line, through channel in brush handle and out into bristles of special insert brush which distributes paint evenly through bristles of brush proper. Flow of paint is controlled by valve located in thumb position. Brushes are being made currently in four sizes: 2½-in. oval and 3, 3½ and 4-in. flat. Made by **Hanlon & Goodman Co.**, Dept. A, Belleville 9, N. J.

For more details circle NED-3175 on enclosed inquiry slip

COOLING WATER CONTROL can be installed in 2-in. line

Insertion type pneumatic temperature control for machines or processes using water as cooling medium employs liquid-filled element to obtain high sensitivity and fast action. It is recommended for applications utilizing company's pneumatic valves on restricted, recirculated and other systems such as in stationary gas or diesel engines, diesel locomotives and plastic presses. Made by **Minneapolis-Honeywell Regulator Co.**, Brown Instruments Div., Wayne and Roberts Aves., Philadelphia 44, Pa.

For more details circle NED-3176 on enclosed inquiry slip

CORRUGATED EXPANSION JOINTS control pipeline expansion

Expansion and contraction caused by temperature change can be controlled by these packless in-line corrugated expansion joints. Two types are available: controlled-flexing joints with control rings for high pressure and free-flexing joints without control rings for low pressure use. Compact units are especially suited for trenches, tunnels and other locations where space is at premium. They operate at pressures to 300 psi and temperatures to 1600° F. Joints of copper, stainless steel or other alloys are available in size range from 3 to 24-in. ID. They are fabricated with single or multiple corrugations, with or without control rings, and with either flanged or welding ends. Units with stainless steel inner liners, tie rods and special flanges for individual installation requirements are available. Made by **Chicago Metal Hose Corp.**, Expansion Joint Div., 1343 S. Third Ave., Maywood, Ill.

For more details circle NED-3177 on enclosed inquiry slip

THE NEW Tuformit TRADE PROCESS MARK

MEANS SPEED AND LOW COST FOR DIES IN THIN WALL CUSTOM PLASTIC MOLDING FOR YOU.

Success in plastic molding depends on the mold plus the knowledge and experience in handling the mold . . . TUT, Inc. with their new Tuformit PROCESS has this know how.

A thin wall plastic unit that is rugged is the better answer for any of these typical production problems:—dust covers, display units, boxes, packaging etc.

TUT, Inc. utilizing their new Tuformit PROCESS can supply you with a thin wall plastic unit in almost any shape . . . any size from ¼" to almost limitless length . . . any thickness from .010 to .125 inch . . . with a combination of colors either opaque or beautiful transparent plastic.

Tuformit PROCESS means to you . . . SAVING of VALUABLE TIME (our special fibre molds do not require weeks or months only days to make) . . . SAVING of MONEY (our special fibre molds are economical)

Either for a short or long run Tuformit PROCESS turns out a better and stronger plastic product.

Write today, tell us your requirements we will be glad to quote and send a sample.

TUT, Inc., 230 Gordon Building, Auburn, New York.

For more details circle NED-3178 on enclosed inquiry slip

TRY IT FREE!
TODAY'S BIG BUY IN CLEANERS

the *All-Purpose* IDEAL "tank type" cleaner

For general vacuum cleaning—water pick-up—scrap collection

Cleans everything from ceiling to floor—efficiently and in less time! *Super-powered* with 1-1/3 H.P. motor, yet rolls as easily as a baby carriage. Hose swivels through full circle. Filtering system traps every bit of dust—bigger particles held in large steel tank. Compact—can't tip— heavy-duty for years of service. No other cleaner like it!

Sold Through America's Leading Distributors

See also IDEAL "Hand-Type" Cleaners. BLOW—VACUUM—SPRAY—1-1/3—2/3 and 1/2 HP models.

MAIL COUPON TODAY FOR FREE DEMONSTRATION IN YOUR OWN PLANT

IDEAL INDUSTRIES, Inc.
1032 Park Ave., Sycamore, Ill.

Arrange FREE DEMONSTRATION of the IDEAL "Tank-Type" Cleaner in our plant.

NAME_____
COMPANY_____
CITY_____ ZONE____ STATE____

For more details circle NED-3179 on enclosed inquiry slip

Now— ONE GREASE will service all grease applications in the majority of plants

SHELL ALVANIA GREASE

Gives all these plant savings:

1. **Extends TIME between greasings**—lasts longer . . . stays in bearings longer.
2. **Low-cost application**—fewer servicings and *only the one grease* to handle.
3. **Simple inventory**—Shell Alvania Grease replaces up to *20* brands formerly required.
4. **Better protection**—against heat, cold and moisture.
5. **Greater safety**—less chance of applying the wrong grease!

Gives all these lubrication advantages:

1. **Higher mechanical stability** than any conventional grease at operating temperatures.
2. **Pumpable at low temperatures**—even in unheated storage.
3. **Stable at high temperatures**—superior to the best "soda" greases.
4. **Impervious to water**—excellent resistance to washing out.
5. **Longer service life**—reduced consumption.

The "MILLION-STROKE" Industrial Grease! A grease that will stand 100,000 punishing strokes of the ASTM Work Tester has been considered a superior lubricant.

In a deliberate attempt to break down Shell Alvania Grease, *on the same tester* the run was extended . . . 200,000 strokes . . . 300,000 strokes . . . 500,000 strokes! Finally, at one million strokes the test was discontinued, because this grease *would not break down*—it was still a fit lubricant both in appearance and consistency.

SHELL OIL COMPANY
50 West 50 Street, New York 20, N. Y.
100 Bush Street, San Francisco 6, California

SHELL

SHELL ALVANIA . . .
The "Million-Stroke" Grease

For more details circle NED-3180 on enclosed inquiry slip

STEEL

Every Kind
Quick Delivery

NEARBY STOCKS INCLUDE:

BARS—carbon & alloy, hot rolled & cold finished
STRUCTURALS—channels, angles, beams, etc.
PLATES—U, M. & sheared, Inland 4-Way Floor Plate
SHEETS—hot & cold rolled, many types & coatings
TUBING—seamless & welded, mechanical & boiler tubes
STAINLESS—Allegheny sheets, plates, bars, tubing, etc.
REINFORCING bars & access.
BABBITT bearing metal
MACHINERY & TOOLS for metal fabrication

RYERSON

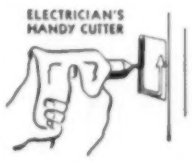
Joseph T. Ryerson & Son, Inc. Plants: New York, Boston, Philadelphia, Detroit, Cincinnati, Cleveland, Pittsburgh, Buffalo, Chicago, Milwaukee, St. Louis, Los Angeles, San Francisco

For more details circle NED-3181 on enclosed inquiry slip

MILLER ROTARY
HI-SPEED COPE-SAW DRILL-BIT
IT SAWS CUTS REAMS

SAWS, CUTS, REAMS—sheet metal, wood, plastic, transite, etc. This sensational new high speed combination bit and saw fits any high speed electric 1/4" drill or drill press; takes place of up to $50. in tools. Drills own starting hole to quickly cut, saw or ream an opening in material. Easy to operate. Ideal for auto mechanics, electricians, plumbers, maintenance men, hobby workers, many others. Drill is made of abrasive resistant, finest high speed steel. Will withstand severe, continuous use. Can run red hot. Drill is 1/4" in diameter, overall length, 3 1/2". Cutting section 2" long with flutes ground from solid.

Discounts on Quantity Orders from Dealers



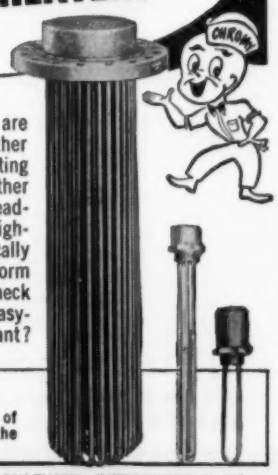
Send Cash, Check or M.O.

only PRICE $3.95 POSTPAID

International Twist Drill Corp. Room 451
624 Wyandotte Kansas City 6, Missouri

For more details circle NED-3182 on enclosed inquiry slip

HEAT GASES and LIQUIDS
Efficiently and Economically
with
CHROMALOX
Heavy-Duty
IMMERSION HEATERS



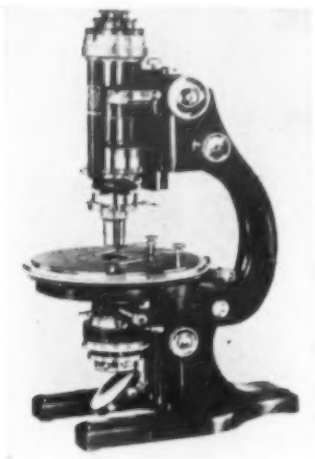
CHROMALOX Electric Immersion Heaters are suitable for heating compressed air and other gases; for super-heating steam; for heating liquids and Dowtherm, Arochlor and other heat-transfer mediums. Heaters can be readily applied to high-temperature and high-pressure operations; when thermostatically controlled, accurate temperature and uniform product controls are possible. Why not check the advantages you can gain by using easy-to-install CHROMALOX Units in your plant?

Get the Booklet
"A to Z with ELECTRIC HEAT"
It contains actual application photographs of electric heaters at work in plants throughout the country. No obligation.

EDWIN L. WIEGAND CO., 7509 THOMAS BOULEVARD, PITTSBURGH 8, PA.
See other advertisement on page 51
CHROMALOX 19-87
ELECTRIC HEAT FOR MODERN INDUSTRY

For more details circle NED-3183 on enclosed inquiry slip

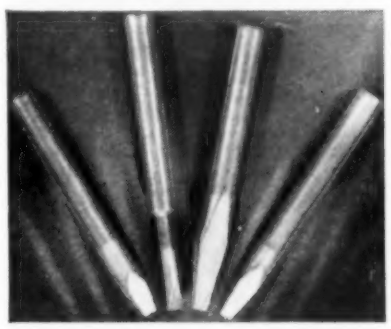
POLARIZING MICROSCOPES utilize Polaroid optical elements



Line of twelve Spencer Polarizing microscopes incorporate highly efficient Polaroid optical elements in place of calcite and can be obtained at prices ranging down to one-third less than previous models. These microscopes are recommended for use by petrographers and chemical microscopists because of durability, resistance to heat, sensitivity of extinction point, freedom from residual color and image contrast. Made by **American Optical Co.,** Instrument Div., 19 Doat St., Buffalo 11, N. Y.

For more details circle NED-3184 on enclosed inquiry slip

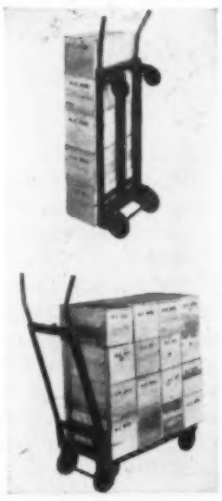
SOLDERING IRON TIPS fit standard plug-type tools



Designed with slot cut in shank, Quick Heat plug type soldering tips will not freeze into soldering iron and are plated for protection against oxidation, corrosion and friction. They can be obtained in sizes from 1/8 to 1 1/8 in. for all makes of electric soldering irons and in shapes to meet specific requirements. Should pretinned surface be destroyed, tip can be retinned by scraping, dipping in flux and flowing fresh solder on working face. Made by **Quick Heat Soldering Tip Sales,** 5649 Eastwood Ave., Chicago 30, Ill.

For more details circle NED-3185 on enclosed inquiry slip

HAND & FLAT-BED TRUCK is convertible



This Double-Service truck carries light flat-bed frame hinged to conventional-type hand truck. For use as flat-bed, frame folds down and handles lock for pushing. Easy steering is afforded by rubber-tired 6-in. wheels and swivel action of 5-in. flat-bed casters. Of welded steel construction, unit weighs 46 lb and has 500-lb capacity. Base length of flat-bed is 36 in., width is 16 in. and overall length of truck is 50 in. Change from hand to flat-bed truck is made with easy upward lift of handles. Made by **Cam Tool Co.,** 288 21st St., Oakland 12, Calif.

For more details circle NED-3186 on enclosed inquiry slip

See this NEW BOOK

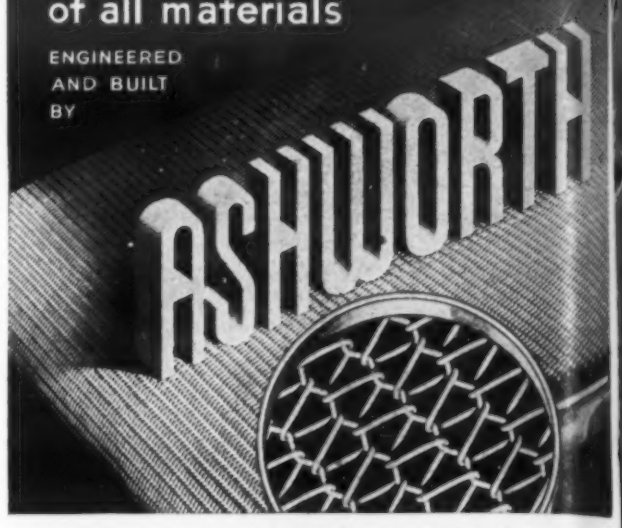
Write for your copy, TODAY!

—of special interest to production officials. Shows dollars and cents savings with Logan Conveyors in actual case histories. Also shows typical handling solution sketches and sketches of functions of main types of conveyors. An informative presentation which can be highly profitable to the reader. Write today for your copy—no obligation.

Logan Conveyors
LOGAN CO., 215 CABEL ST. • LOUISVILLE 6, KY.

For more details circle NED-3187 on enclosed inquiry slip

Metal Belts
for the handling of all materials
ENGINEERED AND BUILT BY
ASHWORTH

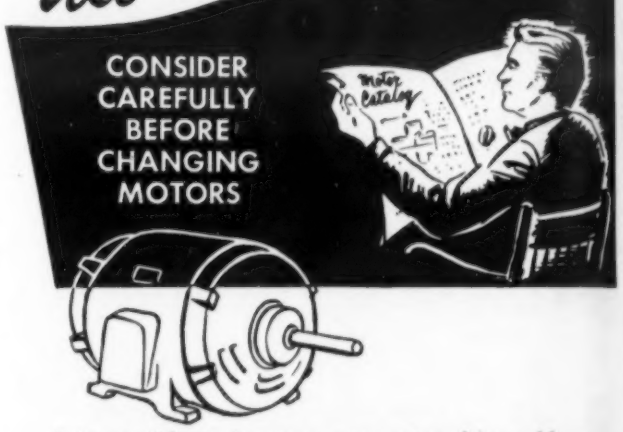


WRITE FOR ILLUSTRATED CATALOG 47D
ASHWORTH BROS., INC.
METAL PRODUCTS DIV. • WORCESTER, MASS.
Sales Engineers located in Buffalo • Chicago • Cleveland • Detroit • Los Angeles • New York • Pittsburgh • Seattle
Canadian Rep., PECKOVER'S LTD. • Toronto • Montreal • Halifax • Winnipeg • Vancouver

For more details circle NED-3188 on enclosed inquiry slip

Use What You Have!

CONSIDER CAREFULLY BEFORE CHANGING MOTORS



It is possible to improve any motor drive with a simple addition, a—

Rawson Centrifugal Clutch or Coupling

The Rawson is not new. It has been widely used by industry for more than 15 years because—

1. Motors can be selected for RUNNING instead of STARTING
2. Motors come up to speed unloaded
3. Across-the-line starting is practical
4. Starting current is reduced
5. Starts are cushioned—always without shock
6. The acceleration period can be regulated and controlled

USE THE MOTOR YOU HAVE
—with a Rawson!
AVAILABLE FROM A FRACTION TO 1200 HORSEPOWER

CONSULTATION INVITED
Consultation is invited on any starting or drive problem no matter how severe. The Rawson can, in nearly every case, be accommodated to the need, at considerable saving in first cost and improved electrical efficiency.

Send For Bulletin
CENTRIC CLUTCH COMPANY
26 SOUTH AVENUE, WEST
CRANFORD, NEW JERSEY

For more details circle NED-3189 on enclosed inquiry slip

THEY'RE ALL INTERCHANGEABLE

Whatever you require in interchangeable punches and dies—round, square, oval, any special shapes, in tool steel or high speed steel—R-B can supply them—when you need them.

Get The Whole Story In This Free Catalog
Full information on Allied's "one-stop" service in this 48-page book. Write for your copy.

RICHARD BROTHERS

ALLIED PRODUCTS CORPORATION
Department 43 • 12629 Burt Road, Detroit 23, Mich.

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U.S.I. SOUND POWERED
assures dependable communication

SAVE TIME . . . DON'T WALK . . . TALK!

Send for this new catalog describing advantages of U. S. I. Sound Powered Telephones.

CUT COSTS . . .
INCREASE YOUR EFFICIENCY

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UNITED STATES INSTRUMENT CORPORATION
SUMMIT • • • NEW JERSEY

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SILVER PLATING "ON THE JOB" with COOL-AMP Powder

Reduce maintenance time and costs by silver plating high amperage electrical connections on the job with Cool-Amp silver plating powder. Cool-Amp deposits a genuine coat of silver that will not peel off and provides cool maximum conductivity for copper, brass or bronze contacts. It has proven equal to any electro-plating for bolted and stationary contacts and is far more adaptable—always ready for instant use.

The new powder offers a quick and easy solution to heating due to oxidation, improves the continuity of electrical service and reduces maintenance.

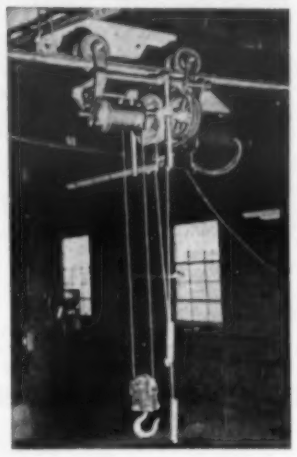
Cool-Amp is completely harmless to the user and is simple to apply; it can be used by any number of people at the same time. The only equipment needed is a sharp steel wire brush or abrasive cloth, clean rag and water. One pound silver plates approximately 6,000 sq. in.

$11.50 per lb. Shipped Postpaid.

COOL-AMP
Dept. D 8603 S. W. 17th Avenue : Portland 19, Oregon

For more details circle **NED-3192** on enclosed inquiry slip

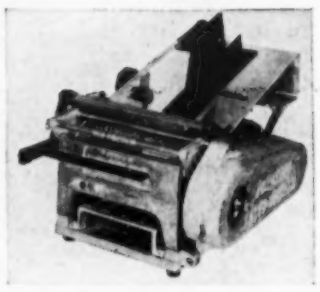
ELECTRIC HOIST
will lift or pull up to 200 ft



Powered by ¼-hp single-phase reversing motor, multipurpose power hoist lifts 500 lb at speed of 25 fpm or 250 lb at 50 fpm. It is supplied with adjustable trolleys for both single and double-wheel tracks, motor, 2000-lb test aircraft type cable for 10 and 20-ft lifts, grooved drum, automatic brake and hook attachments. In addition to hoisting, it can be used as power unit at 62 rpm for operating grindstones and for other drive applications. Made by **Flinchbaugh Co.**, Dept. M, 750 S. Court St., York, Pa.

For more details circle **NED-3193** on enclosed inquiry slip

LABEL PASTING DEVICE
feeds labels semiautomatically

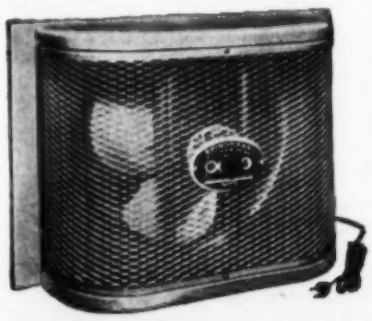


Light touch on rod of semi-automatic feed label paster delivers glued label to operator. Ungummed labels up to 5½ in. wide are stacked in adjustable hopper and are delivered one at a time with adhesive coating when feed actuator is touched with back of hand. Amount of adhesive applied is controlled by dial regulator. Equipped with 1/20-hp motor, unit measures 7¾ in. wide x 11⅛ in. long. Made by **Potdevin Machine Co.**, 1285-A 38th St., Brooklyn 18, N. Y.

For more details circle **NED-3194** on enclosed inquiry slip

TWO-SPEED WINDOW FANS
16 or 22-in. types are reversible

Powered by 1/15 and 1/8-hp motors, models WPR16 and WPR22 Spin-It window fans have 1650 and 3000-cfm capacities, respectively. Fans do not employ starting windings but are started by spinning knob in desired direction for intake or exhaust. They are equipped with thermal overload protectors and two-speed switches that allow 650-rpm low speed and 1000-rpm high speed. Adjustable panels permit fans to fit openings from 26 to 36 in. wide. Made by **Chelsea Fan & Blower Co., Inc.**, 1208 Grove St., Irvington 11, N. J.



For more details circle **NED-3195** on enclosed inquiry slip

IN LUBRICATION Bet on a Sure Thing- CHANGE TO PLASTILUBE
THE SUCCESSOR TO GREASE

COST-MINDED FIRMS.....
QUALITY-MINDED ENGINEERS.....
THEY'RE *ALL* CHANGING TO PLASTILUBE, THE SENSATIONAL NEW LUBRICANT—*THE SUCCESSOR TO GREASE!*

CHECK PLASTILUBE'S FEATURES—COMPARE IT WITH THE PRODUCT YOU'RE NOW USING—
NEVER MELTS
ALL-PURPOSE
NON-BLEEDING
WATER RESISTANT
BETTER ADHESION
NO PHASE CHANGE
COSTS LESS IN USE
BETTER PUMPABILITY
MAKE YOUR OWN TESTS—MAIL COUPON FOR SAMPLE TODAY.

THE Warren REFINING & CHEMICAL COMPANY
CLEVELAND 15, OHIO

The Warren Refining & Chemical Company
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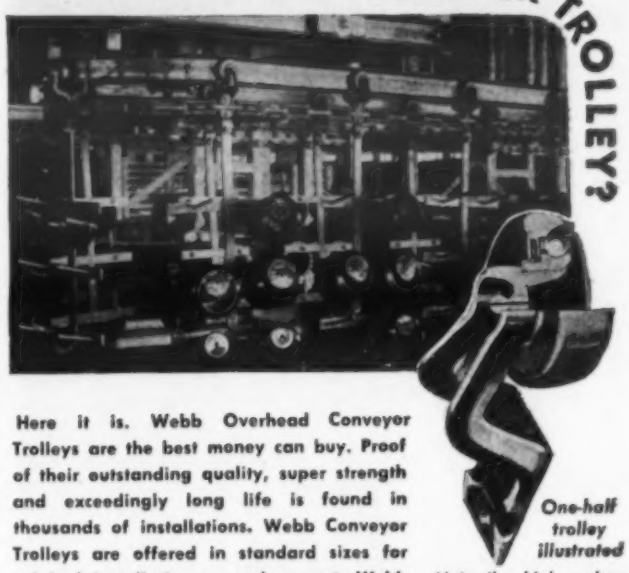
Rush my sample of PLASTILUBE _____

For more details circle **NED-3196** on enclosed inquiry slip

LOOKING FOR A BETTER TROLLEY?



Here it is. Webb Overhead Conveyor Trolleys are the best money can buy. Proof of their outstanding quality, super strength and exceedingly long life is found in thousands of installations. Webb Conveyor Trolleys are offered in standard sizes for original installation or replacement. Webb dependability is a tradition backed by over 30 years' experience.

One-half trolley illustrated

Note the high carbon steel drop-forged swaged type bracket, retainer type ball bearings, double labyrinth grease seals, flangeless steel wheels with hardened and ground races.

JERVIS B. WEBB COMPANY
MANUFACTURERS OF OVERHEAD AND FLOOR TYPE CONVEYORS
OFFICES IN PRINCIPAL CITIES
8921 ALPINE AVE.
DETROIT 4, MICH.

For more details circle **NED-3197** on enclosed inquiry slip

6-Point Recording
ON A SINGLE ROUND CHART

THE NEW FOXBORO MULTI-RECORD DYNALOG* gives up to 6 clean-cut records in as many different colors on one convenient round chart . . . all, with *only one measuring system.* An ingenious, foolproof, record-switching arrangement provides recordings in sequence every 6 seconds. Colors positively will not run together.

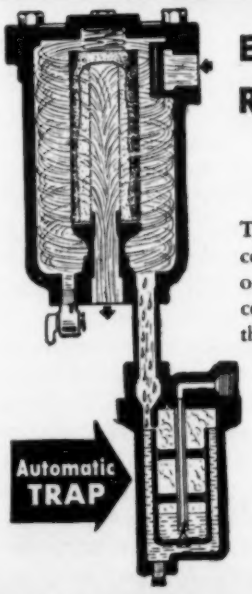
The unique Multi-Record Dynalog is available for measuring several temperatures or other process variables. Send for Bulletin 428 and see how this electronic instrument provides new, money-saving advantages. The Foxboro Company, 134 Neponset Ave., Foxboro, Mass., U. S. A.

*Reg.U.S.Pat.Off.

Another FOXBORO FIRST

For more details circle **NED-3198** on enclosed inquiry slip

Poro-Stone Filtration FOR COMPRESSED AIR



EFFICIENTLY REMOVES

OIL, WATER PIPE SCALE

The Adams *Poro-Stone* Filter gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation. Write for complete data—Bulletin 105.

R. P. ADAMS CO., INC.
227 E. Park Drive • Buffalo 17, N. Y.

ADAMS *Poro-Stone* AIR FILTER

For more details circle **NED-3199** on enclosed inquiry slip

To serve well, a machine part—even when made of good steel, properly treated—must be properly designed.

A new 72 page booklet, sent free on request, discusses the vital relation between design, good steel and its satisfactory treatment.

Climax Molybdenum Company
500 Fifth Avenue · New York City

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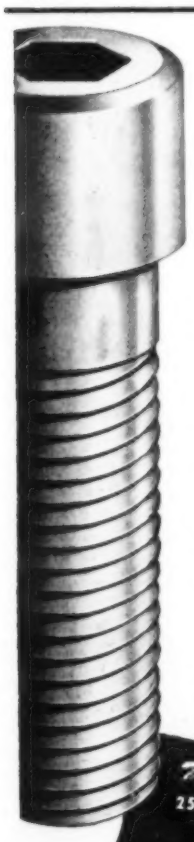


Chicago "Safety Plus" Socket Screws make your product better 4 ways

- **THEY'RE STRONGER**—They fasten products MORE securely—give a sturdier, tighter "hold".
- **THEY GO FARTHER**—Because they're stronger, they fasten tighter with fewer screws, give neater appearance with less weight.
- **MORE ACCURATE**—They're consistently more accurate in dimensions, have sharper, smoother, truer threads, start in easier the first time.
- **THEY COST LESS**—Tighter hold, plus fewer screws, plus a faster fit, means LOWER COSTS—in screws as well as production time.

There is a Chicago "Safety Plus" product designed to give you a tighter, lower cost fastening for ANY heavy duty purpose.

Find the type you need from this list:

Socket Head Cap Screws • Socket Set Screws • Stripper Bolts • Square Head Dog Point Set Screws • Socket Pipe Plugs • Keys • Hexagon Head Cap Screws, Steel and Brass • Square Head and Headless Cup Point Set Screws • Fillister and Flat Head Cap Screws • Taper Pins • Milled Studs • Semi-Finished Hexagon Nuts, Steel and Brass • Hexagon Castellated Nuts.

Service-conscious Industrial Supply Distributors EVERYWHERE carry complete stocks of Chicago "Safety Plus" Products. To speed delivery time, call the one nearest you.

The CHICAGO SCREW COMPANY
2523 WASHINGTON BLVD. • BELLWOOD, ILL.
Established 1872

For more details circle **NED-3206** on enclosed inquiry slip

Drilling is Easier. Holes are Cleaner and Straighter

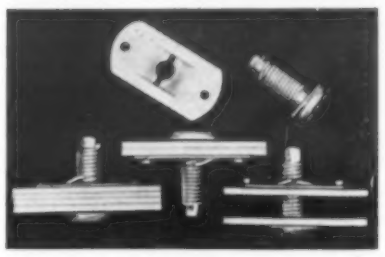
RCD Drill Bits are the answer to the tough problem of drilling concrete, marble, or rock. This original and unsurpassed concrete drill bit has a pulverizing action that makes drilling quick and easy. Used in electric or air rotary drills. No hammering is necessary, no chiseling, no jarring. Standard sizes ¼" to 2" diameter. *Free factory resharpening until further notice.*

Send for new low prices and illustrated literature

ROTARY CONCRETE DRILL COMPANY
640 S. Arroyo Parkway • Pasadena 1, California

For more details circle **NED-3207** on enclosed inquiry slip

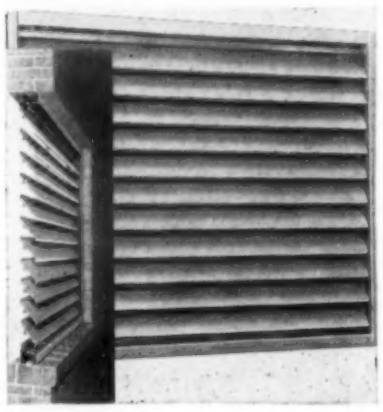
VIBRATIONPROOF FASTENERS use spring thread to absorb shock



Spring employed as threaded section in Southco Spring-Grip fastener acts as shock absorber and effectively cushions vibration and panel movement. Fastener will not loosen under most severe vibration or movement. Samples are obtainable from manufacturer, **South Chester Corp.**, 1403 Finance Bldg., S. Penn Sq., Philadelphia 2, Pa.

For more details circle **NED-3208** on enclosed inquiry slip

BUILDING LOUVERS are weatherproof open and closed

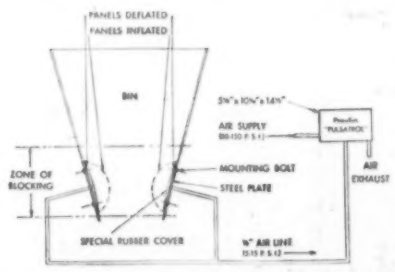


Heavy-duty frame and overlapping blades of Airlouver industrial and commercial building louvers are fabricated so as to permit installations as small as 11⅞ in. high by 12 in. wide up to 74¾ x 48 in. By varying number of blades used and cutting frames to suit width requirements, any size wall opening can be fitted with attractive pattern of equal size unit. Louvers are made in fixed style and in adjustable types which can be operated by any of several methods. Galvanized steel is standard material; but fabrication can be of copper, aluminum, Monel or Asbestos Protected Metals. Made by **Swartout Co.**, 18519 Euclid Ave., Cleveland 12, O.

For more details circle **NED-3209** on enclosed inquiry slip

BIN FEEDING DEVICE assures flow of difficult materials

Arching, funneling and tunneling are prevented by Pneu-Bin pneumatically operated pulsating panels mouted on inside walls of bins and hoppers which keep materials moving by positive displacement. Flexible covers of panels are of reinforced highly abrasion-resistant Goodrich Armorite rubber. Air flow to panels is regulated automatically by Pulsatrol unit which permits selection of wide range of pulsation frequency, force and amplitude. Use of units permits use of closed bin tops and storage of materials previously considered impossible to feed from bins. Made by **Gerotor May Corp.**, Dept. E, P. O. Box 86, Baltimore 3, Md.



For more details circle **NED-3210** on enclosed inquiry slip

CARTER PRODUCTS COMPANY
969 Michigan Trust Bldg., Grand Rapids, Mich.

For more details circle **NED-3211** on enclosed inquiry slip

FIRST TIME ON THE MARKET!

CHIPPAFLEX IN COLORS
the flexible corrugated wrap with the "thousands of little cushions"
NOW in WHITE—RED—BLUE—GREEN
for faster handling, safer shipping, easier identification

CHIPPAMAILER for speedier packaging:
photographs • catalogs • literature • brochures • blueprints • booklets • drawings • manuscripts

CHIPPACUTTER straight or serrated edge—cuts neatly and cleanly:
corrugated (both single and double face) • linoleum • aluminum foil • rubber matting • flexible corrugated • burlap • gasket material • reinforced waterproof paper • photographic papers • flexible corrugated tubing • building papers • flexible plastics • cellulose wadding material • excelsior pads • artificial leather • fiberboard • felt • insulation • rubber tile • muralboard • heavy chipboard • roofing papers • canvas • paper furniture blankets • almost everything except armor plate!

For The Name Of Your Nearest Chippewa Dealer, Write:

Chippewa
PAPER PRODUCTS CO., INC.
3315 W. 48th Place, Chicago 32, Illinois

For more details circle **NED-3212** on enclosed inquiry slip

cut costs on every cleaning job with cold steam

✓ *no back splash*
✓ *blasts stubborn dirt*
✓ *harmless to finest finish*

HYDRO-AIR PRESSURE WASHER $9.95

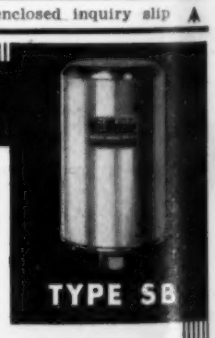
Connects to regular air and hot or cold water supply. Precise control of air and water blasts heavy dirt and grease or rinses sheets and small parts with a penetrating spray. Especially effective for metal and food processing, maintenance and repair, degreasing and paint stripping departments.

Order through your supplier or direct. Washer will be sent post paid

D & M Products, Inc., 439 S. Western Ave., Los Angeles 5, Calif.

For more details circle **NED-3213** on enclosed inquiry slip

NEW...



Extremely sensitive
PRESSURE & VACUUM *Switches*

The new Type SB pressure and vacuum switches are for use in applications in which close on-off differentials and absolutely consistent maintenance of cut-in and cut-out settings are essential in the control of pressure or vacuum. Available are two pressure models and two vacuum models. The Pressure Switches have adjustable ranges from 0-15 psi and adjustable on-off differential from .1" wc-10" wc. They may be furnished as calibrated, micrometer type or uncalibrated for screw driver adjustment.

Electrical ratings at 125/250 V AC between 1200 watts and pilot duty depending on differential. The Vacuum Switches offer adjustable ranges from 30"-0" hg vac with adjustable on-off differential from .1" wc-10" wc. Furnished as calibrated micrometer type or uncalibrated with screw driver adjustment. Electrical ratings of both models 1200 watts at 125/250 V AC.

UNITED ELECTRIC CONTROLS COMPANY
81 School Street
Watertown, Mass.

Special models available for requirements not included in the specifications above.

Write for new bulletin 4926 P giving complete details today.

STANDARD & SPECIAL THERMOSTATS & PRESSURE SWITCHES

For more details circle **NED-3214** on enclosed inquiry slip

Safe... because it's non-slip

TRED-FAST

Penetone's new floor wax that gives sheen of glass ...grip of emery!

Listed as an "anti-slip material" by Underwriters Laboratories, Inc., TRED-FAST keeps floors safe underfoot . . . yet gives them the beauty of a highly waxed finish. Newly developed by Penetone, TRED-FAST contains a special chemical derivative that assures you all the shining qualities of a water-emulsion wax, plus a grip of emery. Actually safer than no waxing at all! Easy to apply, quick-drying, hard and durable, TRED-FAST is ideal for asphalt tile, rubber tile and all other surfaces. Send for full facts and samples of revolutionary new TRED-FAST.

THE PENETONE CO.

BOX ND 550 • TENAFLY, N.J.

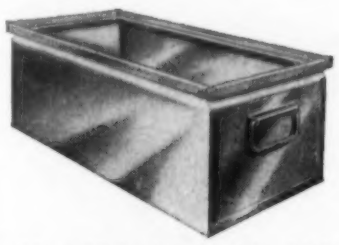
For more details circle NED-3215 on enclosed inquiry slip

FOOT SWITCH
handles 20 amp at 125-v ac

Light toe pressure at any point on large treadle operates snap-action unit of type MX Toe-Tip foot switch. High speed ⅜-in. throw and light-pressure action of switch make it suitable for fast operation where fatigue is to be avoided. It can be furnished with BX fitting for cable entrance or with rubber grommet for portable cord protection. Two mounting holes permit unit to be secured to floor or other surface. Contact arrangements include single-pole single-throw normally open, single-pole single-throw normally closed, and single-pole double-throw. Made by **General Control Co.**, 1211 Soldiers Field Rd., Boston 34, Mass.

For more details circle NED-3218 on enclosed inquiry slip

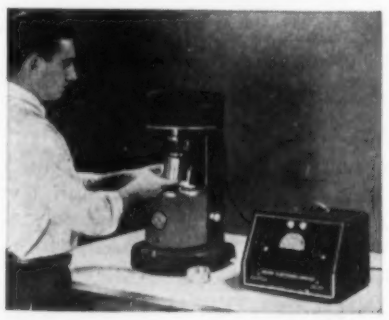
STACKING BOX
has stacking rim on all four sides



Reinforced corners, drop handle at each end, spot-welded construction and use of four rivets for adequate strength are construction features of style 800 stacking box. Made of 18-gage steel, it is obtainable in four sizes. They are 10 in. wide x 16 in. long x 6 in. high, 12 x 18 x 8 in., 12 x 18 x 6 in., and 10 x 20 x 8 in. Made by **Bay Metal Products**, 3009 N. Sixteenth St., Philadelphia 32, Pa.

For more details circle NED-3219 on enclosed inquiry slip

VISCOSITY TESTER
measures directly in centipoises



Testing of such widely diversified materials as glycerin, water and salad dressings or any other liquid of free-flowing Newtonian type is performed without need for calculation by Electroviscometer. Instrument is simple to operate, has sensitivity over full range and provides highly reproducible results. Device comprises stand on which sample is held in cup and revolved at constant speed around bobbin. Two bobbins are available: one for liquids having viscosity of 0-500 centipoises and one for 500-5000 range. Unit is equipped with constant temperature bath, ventilating fan and regulated 110-v ac power supply. Made by **Fisher Scientific Co.**, 715 Forbes St., Pittsburgh 19, Pa.

For more details circle NED-3220 on enclosed inquiry slip

MIGHTY-MITE

THE ECONOMICAL WAY TO SCREEN LIGHT MATERIALS

SINGLE AND DOUBLE DECK MODELS

Speeds Up Sizing, Dedusting, Reclaiming

Put a Mighty-Mite to work and you'll minimize time and labor requirements for screening sand, candies, nuts, tumbler chips and hundreds of other materials. Safe, efficient, proven for light duty. Sizes 1½' x 4' to 2' x 8'. Send for folder, Dept. P.

Made By The Makers of SECO VIBRATING SCREENS

SCREEN EQUIPMENT CO., INC.

1752 WALDEN AVE., BUFFALO 21, NEW YORK

In Canada, United Steel Corp. Ltd., Toronto, Ont.

For more details circle NED-3216 on enclosed inquiry slip

AND THE MARKS STAY ON!

"Reddy" Markal

MARKAL defies Sun, Rain, Heat, Cold, Sleet —all weather conditions. *Permanent!*

MARKAL stays on — and on — and on — Unless you take it off, *purposely!*

MARKAL marks right through wet moisture-frozen or oily surfaces.

MARKAL is the most economical, efficient, time-saving method of identification for metals, lumber, plastics —*all hot and cold surfaces,*

MARKAL is clear, distinct, positive — no messy paint bucket and brush. *A specific type for every marking job.*

MADE FOR ALL HOT AND COLD SURFACES. CHOICE OF COLORS

MARKAL PAINTSTIK

WHAT'S YOUR MARKING PROBLEM? LET US HELP YOU SOLVE IT!

WRITE FOR SAMPLES AND LITERATURE

© 1949 M. Co.

MARKAL COMPANY

"Originators of Paint Stiks"

3065 W. CARROLL AVE. CHICAGO, 12, ILL.

For more details circle NED-3217 on enclosed inquiry slip

How to Fabricate SHEET PLASTIC Rapidly . . . at LOW COST

Write for this booklet showing latest Taber machines and methods of fabricating sheet material .005"—.030" gauge.

Taber

PLASTIC MACHINE DIVISION

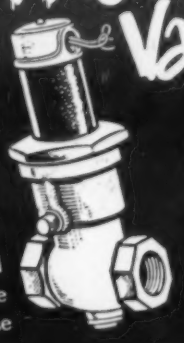
TABER INSTRUMENT CORPORATION

110 Goundry St., North Tonawanda, N. Y.

For more details circle NED-3221 on enclosed inquiry slip

Atkomatic Valves

Electrically Operated



★ Whether you use solenoid valves in your plant or as part of your product, you'll find the right valve in the ATKOMATIC line. These sturdy, compact valves are built in a wide selection of types for pressures up to 3000 pounds. Thousands of ATKOMATIC users find that they assure smooth, trouble-free operation over a long period. Write today for facts about ATKOMATIC.

ATKOMATIC VALVE COMPANY, INC.

1255 ROOSEVELT AVE. • INDIANAPOLIS 7, INDIANA

Send for Literature

For more details circle NED-3222 on enclosed inquiry slip

Take the "ugh" out of tough cutting jobs!

KETT UNIVERSAL SAW

Z-I-P-S THROUGH SHEET METAL, PLYWOOD, PLASTICS AND COMPOSITION MATERIAL!

IN the shop or on the job, here's the handiest handful of cutting power you've ever used. The Kett Saw cuts plastics and other soft material up to ¼" thick, aluminum to 3/16", and mild steel and galvanized metal up to 10 gauge, for intermittent use. No starting hole required to cut straight lines or curves of 6" radius or larger. Tough, long lasting blades are easily changed.

For complete information and action photos, write for Bulletin E-5.

THE KETT TOOL COMPANY

5 EAST THIRD STREET CINCINNATI 2, OHIO

For more details circle NED-3223 on enclosed inquiry slip

KIRK and BLUM

NEW TYPE "M"

UNIT DUST COLLECTORS

Maximum Capacity Minimum Space and Maintenance

This new Heavy Duty Unit Collector offers many features not found in the ordinary portable dust collecting unit. Cleaned air may be returned to room or vented to outside. Motor and exhauster are completely isolated from dust . . . . the unit is completely fire proof. Housings are extra heavy. This unit can be readily moved to meet changing needs. Models available in 450, 900 and 1800 CFM at high velocity.

Kirk and Blum with 42 years experience in large dust control installation, have designed this unit for higher efficiency, with greater capacity and compactness. Write for Bulletin M. The Kirk & Blum Mfg. Co., 2813 Spring Grove Ave., Cincinnati 25, Ohio.

FOR CLEAN AIR... THE INVISIBLE TOOL

KIRK AND BLUM

DUST CONTROL SYSTEMS

For more details circle NED-3224 on enclosed inquiry slip

BE FRESH . . . STAY FRESH

wear a **DUPOR Automatic Water-cooled Respirator**

For years a prime favorite of respirator users. Sponge filter saturated in water provides moist air—cool, comfortable breathing. Keeps out dust, fumes, smoke, paint spray. Face mask is of soft white rubber. Maximum visibility. Automatic valve exhausts breathed air instantly. Wear while paint spraying, or as protection against gases, dusts, smoke, fumes.

Sample sent $7.65 pp

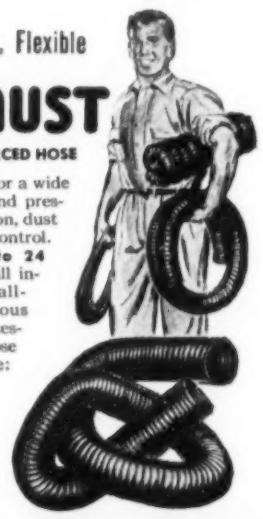
H. S. COVER
South Bend, Ind.

▲ For more details circle NED-3225 on enclosed inquiry slip ▲

FOR VENTILATION, FUME AND DUST CONTROL

Light, Strong, Flexible

FLEXAUST
SPIRAL-REINFORCED HOSE



Flexaust is suitable for a wide variety of suction and pressure uses in ventilation, dust collection and fume control. **SIZES 1¼ inches to 24 inches.** Write for full information on this all-purpose hose. Various Flexaust types, accessories, and other hose types also available:

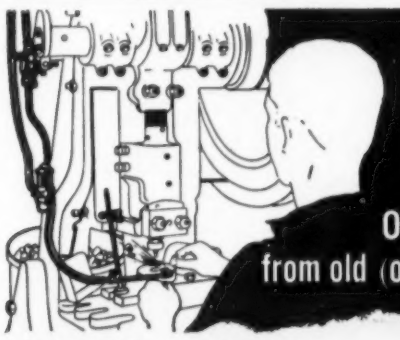
BLOFLEX
Non-reinforced collapsible

PORTOVENT
Ring-reinforced retractable

AMERICAN VENTILATING HOSE COMPANY

Dept. N-5, 15 Park Row, New York 7, N. Y.
Branch Offices:
New Orleans, La., San Francisco, Calif., Washington, D. C.
Plants: Amesbury, Mass.

▲ For more details circle NED-3226 on enclosed inquiry slip ▲



How to get MORE WORK and SAFER OPERATION from old (or new) presses

Do You Believe in Miracles?

You can perform a few miracles by installing Schrader Air Ejection Sets on your Power Presses and other production machines—Invest a few dollars and a few hours' time then watch your production go up like a KITE.

The Schrader Air Ejection Set eliminates manual or mechanical unloading and increases output by ending time-consuming removal of work. A tremendous Air-Saving Device—operates at a minimum of air consumption. Four types to meet all requirements.

For work that is too heavy or large to be ejected by air Schrader supplies a Cylinder Ejection Set that can be timed to operate with each actuation of the machine and eject work as rapidly as the machine can be run.

Write for more information about Schrader Air Ejection Sets today. For information about hundreds of other Schrader Products-Press Controls, Air Cylinders, Valves, Air Filters, etc., write for 72-page catalog.

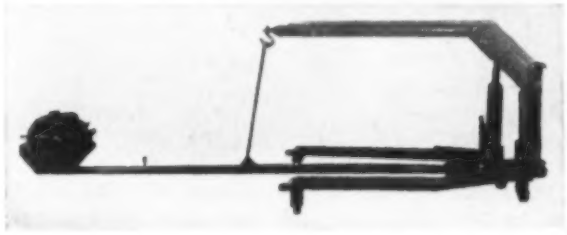
Schrader PRODUCTS CONTROL THE AIR

A. SCHRADER'S SON
478 Vanderbilt Avenue
BROOKLYN 17, N. Y.
Division of Scovill Manufacturing Company, Incorporated

▲ For more details circle NED-3227 on enclosed inquiry slip ▲

HYDRAULIC HOIST
7½-ft boom raises 5000 lb to 8½ ft

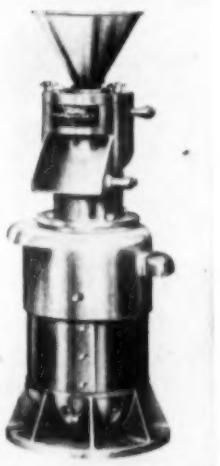
Especially suited to removing and replacing vehicle power plants and transmissions, this hydraulic hoist can be used also to position heavy castings and to handle heavy mo-



tors, mold forms, dies, machinery and tools. Two-speed manually operated hydraulic pump raises boom, and ball bearing casters permit easy movement. Illustration shows hoist with detachable extension arm used to lift loads into relatively inaccessible places. Standard models have capacities of 5000 and 2500 lb, outside leg spread of 42 in. and inside leg spread of 30 in. Hoists can be furnished with such modification as telescoping boom, elevating stilt and specially designed grappling equipment. Made by **R. B. Latch Engineering Co.**, MacDade Blvd. & Forrest Ave., Milmont Park, Del. Co. 3, Pa.

▲ For more details circle NED-3228 on enclosed inquiry slip ▲

SMALL PROCESSING MILL
has capacity of 8 to over 20 gph



Constructed entirely of stainless steel, model M mill is recommended for processing of foods, drugs, chemicals, cosmetics, pharmaceuticals and similar products which require rigid control and purity. It is adaptable also to grinding and processing of certain anhydrous chemicals and earth materials. Easy cleanup and changeover make mill especially useful on short experimental runs and in laboratory control work.

Mill utilizes Carborundum stone revolving in horizontal plane at high speed against stationary stone through which material is fed. Stones can be adjusted to within 0.001-in. Mill can be supplied with either open type or explosionproof motor rated 3 or 5 hp. Diameter is only 14 in., and height is about 3 ft. Made by **Morehouse Industries,** Dept. M, 1156 San Fernando Rd., Los Angeles 65, Calif.

▲ For more details circle NED-3229 on enclosed inquiry slip ▲

DO YOU KNOW? Several years of research work have resulted in development of S/V Ceremul C wax emulsion which permits fully automatic pressing of floor and wall tile at rates up to 360 pieces per minute. Problems of automatic lubrication, mechanical ejection, uneven flow and irregular die filling are overcome by newly developed process. Full information available from Socony-Vacuum Oil Co., 26 Broadway, New York 4, N. Y.

▲ For more details circle NED-3230 on enclosed inquiry slip ▲

. . . on **Buschman** TROLLEY CONVEYORS

● In this application the production parts are picked up automatically from sub assembly by main cable conveyor. Automatic discharge too . . . with no hands.

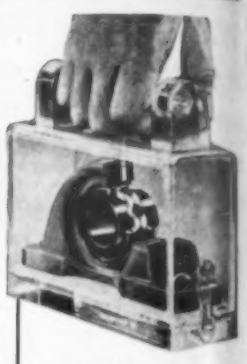
In plants of every size, in every industry, handling costs can be cut 'way down. Users report savings up to 30%. Get the facts on this smooth-running, trouble-free conveyor for light and medium loads. Buschman Representatives in principal cities. Write for Bulletin 41.

THE E. W. BUSCHMAN CO., INC.
Spring Grove at Winton Place Cincinnati 32, Ohio

▲ For more details circle NED-3231 on enclosed inquiry slip ▲

YOU CAN PROFIT *by looking into*

SEALMASTER BALL BEARING UNITS



SealMaster ball bearings are available in a complete line of standard units.

- Pillow Blocks
- Flange Units
- Hanger Units
- Cartridge Units
- Flange-Cartridge Units
- Take-Up Units

Invite your SealMaster engineer to give your company the inside story of SealMaster bearings. Let him show you the cut-away SealMaster he carries and tell you how they can serve you better in your plant and on your products for 3 reasons:

1 **PERMANENTLY SEALED**...to keep dirt out...grease in.
2 **SELF-ALIGNING**—Can align itself in any direction without seal distortion.
3 **PRE-LUBRICATED**...at the factory. Ready to use.

Write for Catalog 845

Bearing Division
STEPHEN S-A ADAMSON
12 Ridgeway Ave., Aurora, Illinois Mfg. Co. Los Angeles, Calif. - Belleville, Ont.

Factory Representatives and Dealers in All Principal Cities

▲ For more details circle NED-3232 on enclosed inquiry slip ▲

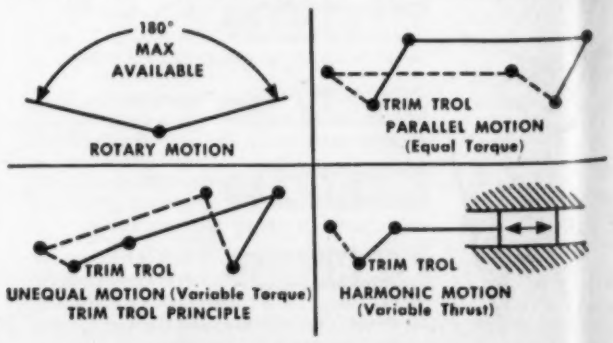
The New **Trim Trol®**
ELECTRIC ROTARY ACTUATOR

Available for either 110 V., A.C. or Low Voltage D.C.

★ Compact Size. See dimensions above.
★ Weight 2.25 pounds.
★ Operating Load Capacity 350 in. lbs. (Std. Ratio)
★ Static Capacity 1500 in. lbs. minimum.
★ Zero Backlash Output Shaft.
★ Positive Overtravel Safety Stops. "Optional Extra".
★ Position Transmitter Potentiometer Built In and Externally Adjustable. "Optional Extra".
★ Radio Noise Filter Built In. "Optional Extra".
★ POSITIONING CONTROL or electrical synchronizing available using our "Servosyn" unit.

POSITIONING SERVOSYN CONTROL

TYPICAL SCHEMATIC APPLICATIONS



WRITE FOR BULLETIN 112

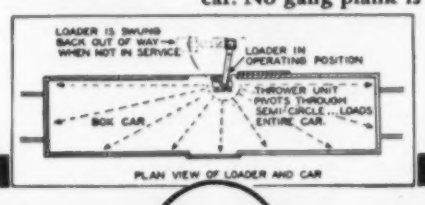
AIRBORNE ACCESSORIES CORPORATION
25 MONTGOMERY ST. • HILLSIDE 5, NEW JERSEY
HOLLYWOOD, CAL. • DALLAS, TEX. • OTTAWA, CAN.

▲ For more details circle NED-3233 on enclosed inquiry slip ▲

SPEED LOADING AND TRIMMING BULK MATERIALS INTO BOX CARS WITH AN S-A SWIVELOADER

Loose, granular bulk materials (up to 2" size) can be loaded and trimmed *automatically* with an S-A SWIVELOADER in a fraction of the time required for hand loading. Centrifugal thrower unit, swung into position, discharges to all parts of car. One man can operate it *part time* without entering the car. No gang plank is required.

Write for SWIVELOADER Bulletin No. 1046 . . . or No. 240 on portable wheel mounted loaders.

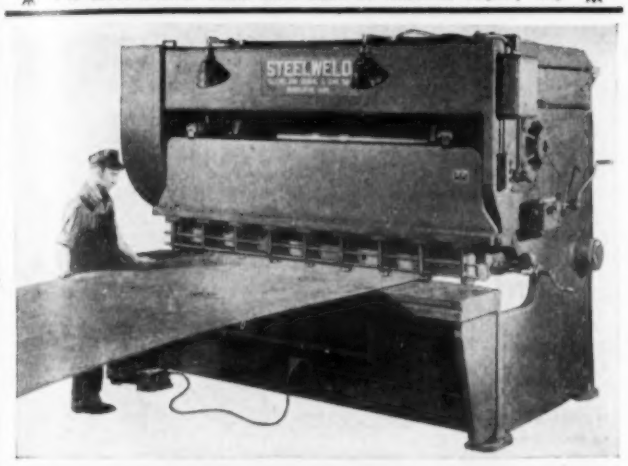


STEPHEN S-ADAMSON MFG. CO.

Tellevel—Bin Level Controls · Car Loaders · SealMaster Ball Bearings · Car Pullers · Winches · Saco Speed Reducers

12 RIDGEWAY AVE., AURORA, ILLINOIS

For more details circle NED-3234 on enclosed inquiry slip



ALL STEELWELD SHEARS *Controlled Electrically!*

Convenient electric foot-switch operation is standard for all Steelweld *Pivoted-Blade* Shears. The switch can be slid around floor to wherever handiest. It eliminates tiresome leg lifting required for usual mechanical foot treadle.

Steelweld Shears are built in all sizes for plate to 1-1/4" thick. Get the facts on these truly modern machines.

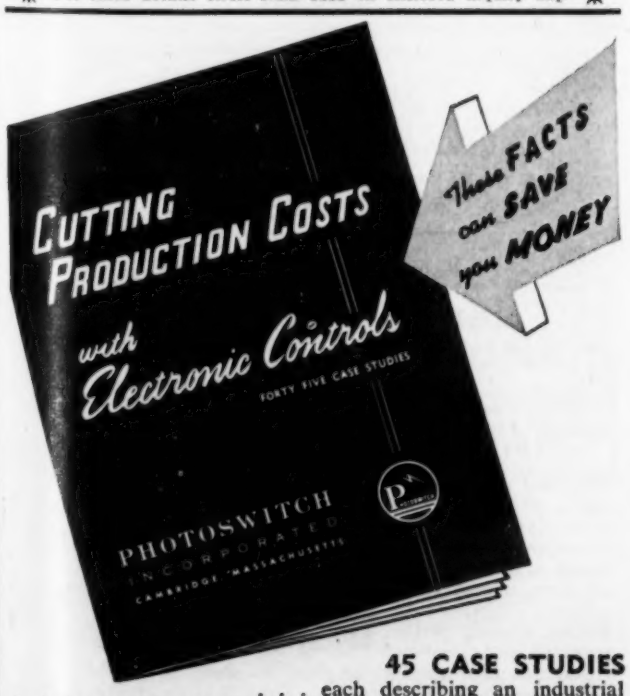
STEELWELD Pivoted-Blade SHEARS CATALOG No 2011

Send for free Catalog No. 2011

THE CLEVELAND CRANE & ENGINEERING CO.
6609 East 282nd St., Wickliffe, O.

STEELWELD SHEARS

For more details circle NED-3235 on enclosed inquiry slip



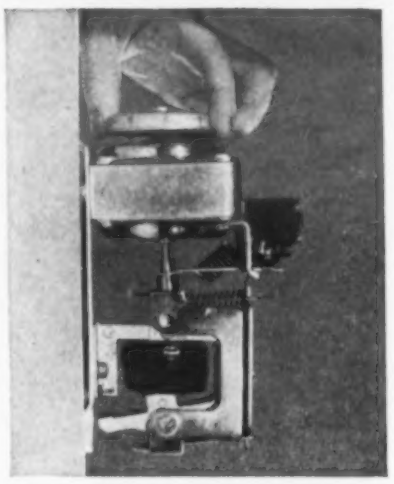
45 CASE STUDIES . . . each describing an industrial control problem which has been solved through the use of electronics. Not a catalog . . . it shows HOW photoelectric and electronic controls count, guard, sort, weigh, measure, maintain liquid levels, program operating cycles and do countless other tasks with unfailing accuracy and amazing speed.

Write for your copy today.

PHOTOSWITCH INCORPORATED
77 Broadway, Cambridge 42, Massachusetts

For more details circle NED-3236 on enclosed inquiry slip

PNEUMATIC TIME DELAY RELAYS adjustable from 0.2 to 200 seconds



Large graduated dial of type AM pneumatic relay permits time delay adjustment throughout entire range. Micromovement type precision snap switches with double make and break contacts are used. These switches are rated at 15 amp 115-v continuous duty. Additional switches for interlocking purposes can be supplied. Relay is available as open or closed unit, latter in NEMA type I enclosure with conduit knockouts at top and bottom. Operating coils are available in ratings up to 600 v ac, 25 to 60 cycles, and are designed for service down to 85 per cent of rated voltage. Made by **Westinghouse Electric Corp.**, P. O. Box 2099, Pittsburgh 30, Pa.

For more details circle NED-3237 on enclosed inquiry slip

CIRCULAR SAW cuts at any angle up to 45 degrees

Mounted on rigid steel stand, Kwik-Saw is furnished complete with ½-hp motor, 8-in. combination rip and cross-cut saw blade, miter gage and rip fence. Heavy pressed steel table measures 20 x 24 in. and is equipped with two miter slots. Tilting arbor is quickly adjustable for both angle and depth of cut in both horizontal and vertical planes. Since it operates on ball bearings with working parts fully protected, arbor can not stick or bind. Belt tension is maintained automatically. When saw is set at 90 degrees, it can make up to 2¾-in. cut; set at 45 degrees, it cuts up to 2⅛-in. Price complete is $62.95. Made by **Emrick, Inc.**, 1400 Clinton Ave., Kalamazoo, Mich.

For more details circle NED-3238 on enclosed inquiry slip

DO YOU KNOW? Ball-point pens have become a permanent accessory in the operation of certain types of industrial electronic instruments. Because of their quick-drying nonsmudging characteristics, these pens are now standard in single and two-record Brown electronic strip chart recorders. Made by Minneapolis-Honeywell Regulator Co., Industrial Div., 2950 Fourth Ave. S., Minneapolis, Minn.

For more details circle NED-3239 on enclosed inquiry slip

For Positive Filtration

on all industrial oils, solvents and water

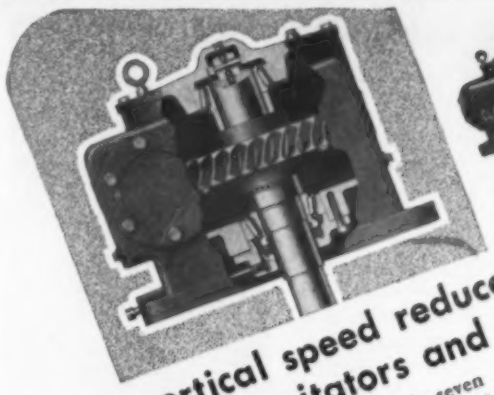
With an Alsop "Disc-Pak" Filter on your line, all of the liquid will be as clean and as sparkling as you specify. The enormous filter area yet small floor space requirement, the self-sealing principle, the elimination of complicated parts and the ease with which used cartridge elements can be removed, guarantees positive filtration with minimum get-ready time and operating costs.

The replaceable-cartridge type elements are available in eight different grades from coarse, fast flowing to ultra-fine grades to remove particles in the submicron stage. "Disc Pak" Filters are made in full range of sizes and capacities up to 3600 g.p.h.

Send for this Free Catalogue:
Alsop Engineering Corporation
305 East Road, Milldale, Conn.

ALSOP ENGINEERING CORPORATION
Filters, Filter Discs, Pumps, Tanks, Mixers, Agitators

For more details circle NED-3240 on enclosed inquiry slip



Type ND, with drive shaft down

A new vertical speed reducer to drive agitators and mixers

IMPROVED worm gear drive—in seven sizes each of two types—ready for prompt delivery. Designed especially for agitators and mixers, and for use with supplementary low-speed spur gear drives, without requiring outboard bearings. WRITE FOR BULLETIN 125, describing types NU and ND, with capacity charts and dimension data. The Cleveland Worm & Gear Co., 3283 East 80th St., Cleveland 4, Ohio.

For personalized service: Write or phone John E. Millikan Cleveland exch. VUlcan 3-4560

CLEVELAND Worm Gear Speed Reducers

For more details circle NED-3241 on enclosed inquiry slip

A FAST WAY TO REDUCE COSTS

Capacities from ⅛ to 1 ton
110, 220 or 440 volts

Hundreds of plants are cutting overhead with the CM COMET . . . a sturdy, high-speed, portable *electric* hoist. All working parts fully enclosed and permanently lubricated. Don't buy until you see the CM COMET. Ask your local distributor for a demonstration.

Write for Bulletin 138
Get all the facts

CHISHOLM-MOORE HOIST CORPORATION
(Affiliated with Columbus McKinnon Chain Corporation)
GENERAL OFFICES AND FACTORIES: TONAWANDA, N. Y.
SALES OFFICES: New York • Chicago • Cleveland • San Francisco • Los Angeles

For more details circle NED-3242 on enclosed inquiry slip

STOP! INJURIES AND WORK INTERRUPTIONS from falling fluorescent-tube accidents

Economical, easily installed Den-El SAFETY GUARDS hold flourescent tubes firmly in sockets whenever a sudden jolt or continuous vibration occurs.

Made of resilient stainless steel, permanent installation requires simply tightening nut on a precision-made machine screw. The band that holds tube, as shown in photograph, is easily pulled aside when lamps are cleaned or replaced and resumes holding position when released.

Two guards are required for each tube. They are made in two sizes: for 40 watt tube at 17c each and 100 watt tubes at 20½c each. Don't wait for accidents to happen! Den-El guards are economical protection against falling glass and possible serious injury in factories, shops, offices, stores.

ORDER TODAY DIRECT OR SEND FOR COMPLETE DATA

A DEPENDABLE GUIDE TO SAFETY
GENERAL SCIENTIFIC EQUIPMENT COMPANY
TESTED INDUSTRIAL SAFETY PRODUCTS

2701 W. Huntingdon St.
Philadelphia 32, Pa.

RESPIRATORS • PUMPS • GOGGLES • SHIELDS • GLOVES • APRONS • HELMETS

For more details circle NED-3243 on enclosed inquiry slip

Move it in a Jiffy!

The ALCO-LITE Type 600 Aluminum Warehouse Ladder

The ALCO-LITE Type 600 weighs only 40 lbs. Rear legs are equipped with replaceable rubber-tired casters so that it can be quickly moved from place to place. Ideal for warehousing or general maintenance work. Can be supplied in folding type at no additional cost. Type 601 (not shown) has high handrail surrounding platform.

Write for Industrial Catalog containing specifications for the Type 600, as well as eight other types of ALCO-LITE Aluminum Ladders.

Pioneer Builders of Aluminum Industrial Ladders

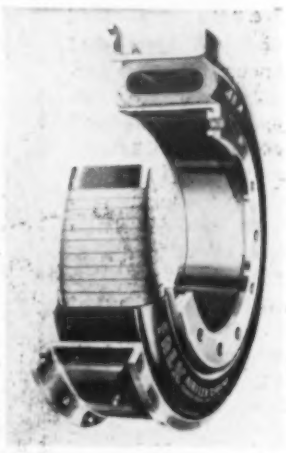
ALCO-LITE ALUMINUM LADDERS

ALUMINUM LADDER COMPANY

346 CARBIS STREET • WORTHINGTON, PENNA.

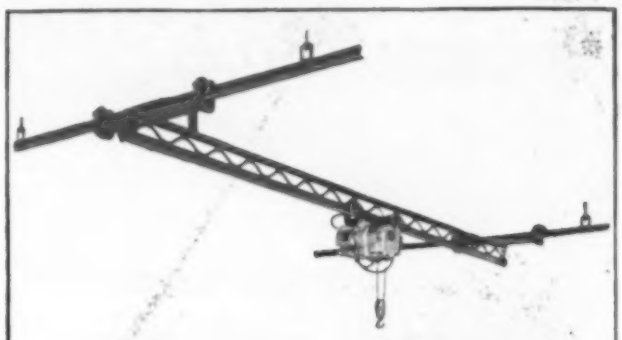
For more details circle NED-3245 on enclosed inquiry slip

FLEXIBLE COUPLING has improved rubber composition



Improvement in rubber composition and bonding have increased torque capacity of this Airflex flexible coupling 20 per cent above previous models. Redesigned hubs and adapter plates facilitate disconnection and removal of entire gland assembly, and all redesigned components are interchangeable with equivalent parts now in use. Standard parts can be combined to allow six different mounting arrangements including flange mounting on flywheel. Stiffness factors can be controlled. Coupling is designed for engine drives and applications involving extremely severe torque fluctuations. Made by **Falk Corp.**, 3001 W. Canal St., Milwaukee 8, Wis.

For more details circle NED-3248 on enclosed inquiry slip



Light Duty Low Cost

MONORAIL CRANE

For loads up to 1500 lbs. and a maximum space of 16 feet, this crane, with American MonoRail track for runways, makes an extremely low-cost material handling system covering maximum floor area.

An American MonoRail Engineer will gladly give complete details without obligation. Write for Bulletin MF-1 describing MonoRail Crane developments.

THE AMERICAN MONORAIL COMPANY

13116 Athens Avenue • Cleveland 7, Ohio

For more details circle NED-3252 on enclosed inquiry slip

Clamp Most Anything WITH

"Aero-Seal"

THE UNIVERSAL WORM-DRIVE CLAMP

"No holds barred" with Aero-Seal. Clamp odd-shaped connections, join multiple pipes or ducts together firmly, permanently, with these durable steel clamps that conform easily to any shape. Worm drive prevents distortion at point of clamping; use again and again.

Vibration will not loosen. Integral construction—no parts to lose. Corrosion resistant—cadmium plated or stainless steel. Available for screw driver or thumb grip.

ANOTHER BREEZE MARK PRODUCT

WRITE TODAY FOR FREE SAMPLE!

"Aero-Seal" HOSE CLAMPS

AERO-SEAL Worm Drive Never Works Loose

BREEZE CORPORATIONS, INC.
Aircraft Standard Parts Division
37 South Sixth Street, Newark 7, N. J.

For more details circle NED-3246 on enclosed inquiry slip

HAND OPERATED HOIST compact for tight places

Made in capacities from ½ to 4 tons, Safeway hand hoist is easily-handled lightweight unit that requires minimum of headroom. Construction features simplicity of design, gear drive, Weston type brake, steel load chain, steel housing, self-lubrication, and drop forged top and bottom hooks. Hoist has high safety factor against possible impact loadings. Portability, combined with high strength, adapts these hand hoists for general utility and industrial use. Made by **American Chain & Cable Co.**, Wright Hoist Div., York, Pa.

For more details circle NED-3249 on enclosed inquiry slip

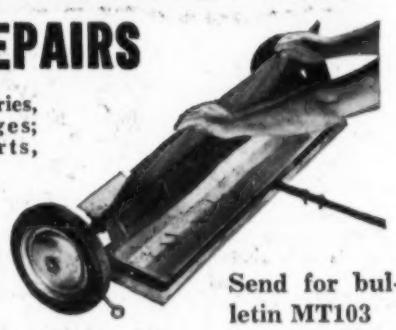
DIESEL COOLANT TESTER indicates chromate concentration

Rapid and accurate field testing of diesel cooling water is afforded by small portable Chromokit. Color reaction which results from applying drop of cooling water sample to chemically impregnated test card indicates treatment strength and permits accurate adjustment. Sturdy metal case contains four sample bottles, packet of cards to conduct 80 tests, color standard guide and treatment adjustment chart. When chromate strength is low, spot value is checked against treatment adjustment chart which indicates additional treatment required by cooling systems of 50 to 300-gal water capacity. Made by **Dearborn Chemical Co.**, Dept. NED, 310 S. Michigan Ave., Chicago 4, Ill.

For more details circle NED-3250 on enclosed inquiry slip

HOMER PERMANENT non-electric MAGNETIC SWEEPERS SAVE TIRES and REPAIRS

For use in Factories, Canneries, Garages; Roads, Airports, Wharfs, etc.



Send for bulletin MT103

Great savings of tires and "down time" on rolling stock are reported by users of HOMER MAGNETIC SWEEPERS. Idle equipment runs up expense—runs down profit. Keep your loading areas and roads free from nails and steel trash.

The HOMER MANUFACTURING CO., Inc.
Dept. I-25 LIMA, OHIO

Producers of Magnetic Separator Equipment Since 1923

For more details circle NED-3253 on enclosed inquiry slip

MAKES BASEMENTS DRY!

Leaks in concrete walls can be stopped quickly with FLEXTITE. Actually seals against water pressure. Efficient as a plaster coat for sealing off water and dampness. Converts wet basements into dry useful space. Used in elevator pits, tunnels, dams, tanks, retaining walls. In reconstruction work, broken pillars and beams can be quickly reshaped with FLEXTITE.

MAIL COUPON for FREE TRIAL OFFER

FLEXTITE

FLEXROCK COMPANY
3603-F Filbert St., Philadelphia 4, Pa.
Offices in Principal Cities
Please send me complete FLEXTITE information and details of TRIAL ORDER PLAN — no obligation.
Name .....
Company .....
Address .....

For more details circle NED-3247 on enclosed inquiry slip

Welding Production Up 50% Labor Costs Down 50%

OUR CLAIM—*PROVEN* BY OUR CUSTOMERS

"Efficiency on repetitive work up to 90% and better."—Black, Sivalls & Bryson, Inc., Kansas City, Mo.

"Reduced labor cost approximately 50% over hand methods."—Dallas Tank Company, Dallas, Texas.

Worthington-Ransome Turning Rolls mean *more arc time* per day. All welds made in "down hand" position with heavier electrodes for neater, better welds.

Standard capacities from 3 to 75 tons, up to 14 ft diam., stationary or self-propelled. (Rolls for heavier or larger work also available.) Also: positioners with capacities from 100 lbs to 20 tons.

Write for Bulletin 228. Worthington Pump and Machinery Corporation, Welding and Assembly Positioning Equipment Division, Dunellen, New Jersey.

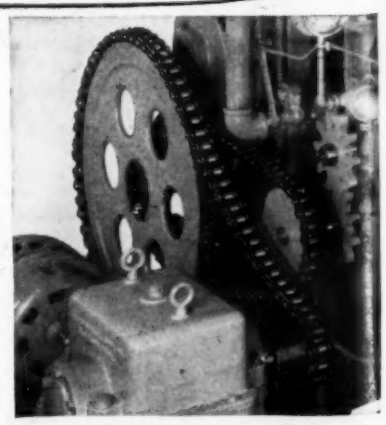
WORTHINGTON

WORTHINGTON-RANSOME WELDING POSITIONER

For more details circle NED-3251 on enclosed inquiry slip

For a QUICK SOLUTION of Your DRIVE PROBLEMS

Flexible Efficient DIAMOND ROLLER CHAINS



Whether you need a small drive or one of several thousand horsepower — high speed or low—short or long center distance, Diamond Roller Chains will transfer the power from motor or engine, or shaft to shaft with 98-99% efficiency and without slip . . . They withstand shock loads, protect bearings—reduce delays and maintenance.

DIAMOND CHAIN COMPANY, Inc., Dept. 457, 402 Kentucky Avenue, Indianapolis 7, Indiana.

Write now for Chain and Stock Sprocket Catalog 709.

DIAMOND ROLLER CHAINS

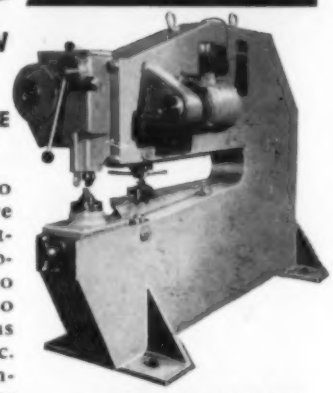
For more details circle NED-3254 on enclosed inquiry slip

"We Can Do it on the PULLMAX AND SAVE THOUSANDS ON DIE COSTS"

Use the Versatile NEW

PULLMAX

SHEET STEEL AND PLATE WORKING MACHINERY



With the Pullmax you can do inside or outside circle, square or design cutting, straight cutting, beading, folding or nibbling on the finest gages up to 11/32" plate (in mild steel). Also work stainless, non-ferrous metal, wire mesh or plastic. Leaves a smooth, perpendicular cut, requires no further finishing.

WRITE FOR CATALOG AND PRICES

...with PULLMAX

You can make small production runs without the expensive cost of dies.

AMERICAN PULLMAX CO., INC.

2629 North Western Avenue Chicago 47, Illinois

For more details circle NED-3255 on enclosed inquiry slip

Saw Large Holes thru sheet or plate

MARVEL High-Speed-Edge Hole Saws (with high-speed-steel cutting edge integrally welded to tough alloy steel body) provide fast, economical means of sawing out holes from 5/8" to 4 1/2" diameter through steel up to 1 1/8" thickness. Extra cutting quality and high-speed-steel, self-aligning, double drive pin arbors give strength for use on drill presses, lathes and portable tools, greatly increase the hole size capacity of small tools. Last longer and cut faster with safety.

Write for Hole Saw Catalog Sheets.

MARVEL *Metal Cutting* **SAWS**

Better Machines-Better Blades

ARMSTRONG-BLUM MFG. CO.

"The Hack Saw People"

5700 Bloomingdale Ave. Chicago 39, U.S.A.

For more details circle NED-3256 on enclosed inquiry slip

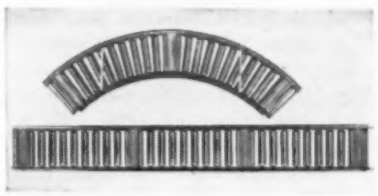
Operating by compressed air from 30 to 50 psi, the new SK Ejectopump handles liquids regardless of character or viscosity including those containing solids. Carrying discharge heads up to 55 ft., the Ejectopump can also lift liquids as high as 25 ft. No violent stirring action occurs—liquid is drawn by suction into the tank and is discharged when tank is full. A rhythmic cycle of suction and discharge strokes is maintained automatically. The pump has *no glands* and *no bearings*, needs no lubrication, is self priming and includes an arrangement for blowing down. For complete details write to:

SCHUTTE AND KOERTING CO.

1177 THOMPSON STREET • PHILADELPHIA 22, PA.

For more details circle NED-3257 on enclosed inquiry slip

ALUMINUM GRAVITY CONVEYOR adapted to outside installations



Recommended for outside applications where steel might rust or corrode, this lightweight aluminum roller gravity conveyor is also suitable for use in dusty or hazardous locations where nonsparking equipment is specified. Knitted frame construction and roller assembly add strength and rigidity to unit, and locked inner cone with free-running hardened steel ball bearings prevents rotation of bearing on shaft and eliminates binding under loads. Conveyor is supplied in 5, 8 and 10-ft sections in 12 and 18-in. widths. Weight of 5-ft section of 12-in. width is only 27 lb. Rollers which project 3/8-in. above side channel frame permit movement of wide sheets of plywood and other panels around curves in line. Made by **Rapids-Standard Co.**, Dept. RRC, 342 Rapistan Bldg., Grand Rapids 2, Mich.

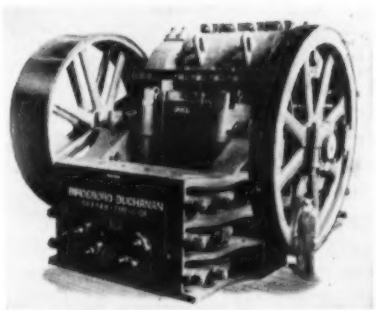
For more details circle NED-3258 on enclosed inquiry slip

ALUMINUM GANGWAY supplied in lengths up to 36 ft

Constructed of aluminum alloy, Alco-Lite GW-500 gangway is light in weight and easily handled. Complete with stanchions and ropes, 29-ft long 28-in. wide model weighs 440 lb and has deflection of only 3/4-in. under 3000-lb distributed load. Gangway is constructed with straight side frames and is available in widths up to 28 in. Standard equipment includes aluminum flooring with wet-dry safety walk, rope hand rail on both sides, angle cleats and aluminum wheels or rollers on both ends. Aluminum hand rails as shown can be supplied at additional cost. Made by **Aluminum Ladder Co.**, 346 Carbis St., Worthington, Pa.

For more details circle NED-3259 on enclosed inquiry slip

LARGE JAW CRUSHER takes truckload of rock in one bite

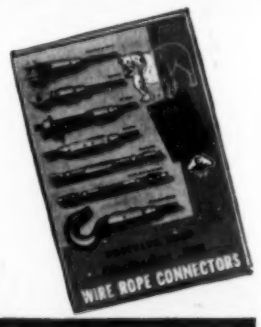


Capable of processing 4 to 5 cu yd of stone at one time, this large jaw crusher weighs 275 tons and has maximum capacity of 900 to 1000 tons per hour, if feeding is continuous. It is deep frame type with sectionalized side frames and 66 x 84-in. receiving opening. Machine is being used at Detroit Dam, Mill City, Oregon, which is part of Columbia River basin development. Made by **Birdsboro Steel Foundry & Machine Co.**, C. G. Buchanan Crushing Machinery Div., 1941 Furnance St., Birdsboro, Pa.

For more details circle NED-3260 on enclosed inquiry slip

These are outstanding advantages of Electroline fittings: Shorter installation time—no heat, acids or dangerous molten metal is required—unskilled labor, using ordinary mechanic's tools, make connections in a matter of minutes. And, these permanent wire-rope fittings prolong the life of rope by damping vibration and overcoming rope-fatigue at entrance to fittings—can be reclaimed and used over and over again.

Illustrated, pocket-size Catalog fully describes all advantages of Electroline wire rope fittings . . . send for your copy, today.



Electroline Company

4121 SOUTH LA SALLE STREET

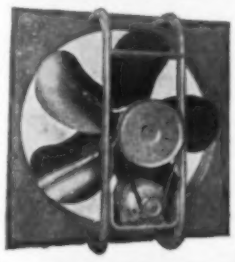
CHICAGO 9, ILLINOIS

For more details circle NED-3261 on enclosed inquiry slip

CHELSEA FANS

FOR INDUSTRIAL AND COMMERCIAL NEEDS

— step up production and plant efficiency, prevent *HOT WEATHER SHUT-DOWNS!*



The efficient, economical way to banish employee fatigue due to smoke, fumes, steam and heat. CHELSEA fans provide adequate circulation of cool, clean, fresh air — with up to a complete change of air per minute! Remember—a CHELSEA installation can save you time and money.

Heavy Duty, Belt-Driven TYPE IND

This powerful Industrial fan is scientifically designed to move huge volumes of air in factories, foundries, mines, institutions, hotels, schools, etc. Sizes 24" to 60", with air deliveries from 5500 to 40,500 CFM.

ALL TYPES • SIZES • CAPACITIES

Belt Driven Penthouse Fan TYPE PH – a completely packaged unit, all-steel housing and automatic aluminum louvers. Fits any installation — sizes from 24" to 60"; 5500 to 40,500 CFM.

Duct Booster Fan TYPE DXB – Belt driven, for paint booths, removal of fumes, and duct installations. Sizes from 16" to 42"; 2960 to 26,400 CFM.

Automatic Shutters, Horizontal TYPE LWL – Sturdy, counterbalanced, single section construction. Full 90° opening. Sizes 10" to 60".

Belt Driven, Pedestal Mancooler TYPE MC – For use where large volume, on-the-spot air circulation is required.

WRITE FOR NEW CATALOG AND PRICE SHEET

Full information on the most complete line for '50—engineering data, installation details, etc. Address Dept. G.

CHELSEA FAN & BLOWER CO., INC.

1206 GROVE ST., IRVINGTON, N. J.

For more details circle NED-3262 on enclosed inquiry slip

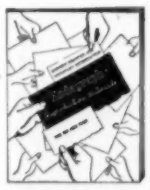
NEW SAVINGS ... with Kodagraph Autopositive Paper

Since 1947 the production of photographic intermediates has been easier, faster, more economical for The Heald Machine Company, Worcester, Mass. *Thanks to Kodagraph Autopositive Paper.*

With this revolutionary, low-cost intermediate material, positive photographic copies of original drawings are produced *directly*—without a negative step, without darkroom handling. Furthermore, *Heald* uses its direct-process machine for the exposure operation; standard photographic solutions for development.

How "Autopositive" is used. A large percentage of the precision finishing machines manufactured by Heald are specially engineered to customer-specifications. And, frequently, Heald is requested to draw special units and fixtures on the customer's own drafting paper. These originals are reproduced on "Autopositive" (for Heald's record) and turned over to the customer when the job is completed.

Thus, when repair parts are requested, or a duplicate order is entered, shop prints can be made promptly from the Autopositives. These new intermediates have dense photographic black lines on an evenly translucent base ... will not smudge or smear in print production . . . turn out sharp, clean prints at uniform, practical machine speeds.

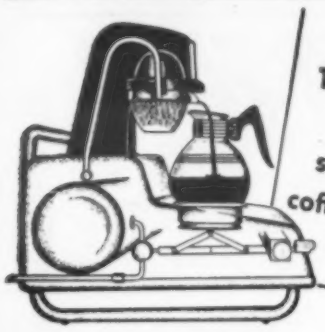


A NEW FREE BOOKLET gives you full facts on Kodagraph Autopositive Paper, the revolutionary photographic intermediate material which you, or your local blueprinter can process quickly, economically. *Write for it today.*

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Kodak TRADE-MARK

For more details circle NED-3263 on enclosed inquiry slip



Only the THERMOSWITCH* CONTROL solves "push button" coffee maker's complex control problem

Automatically brewing coffee of the same high quality and unvarying flavor, the new Cory "Push Button" Coffee Brewing System involves exact control of coffee, water, infusion time and, most important, water temperature.

Tests proved that only a THERMOSWITCH Thermostat possessed the extreme sensitivity and instant response necessary to meet the Cory Coffee Maker's exacting requirements and load conditions.*

Chances are a standard THERMOSWITCH* unit will be fully adequate for your own applicational needs. If not, Fenwal will be glad to discuss your particular problem . . . and you'll find the cost of *all* THERMOSWITCH* controls surprisingly low!

FENWAL INCORPORATED
85 Pleasant Street, Ashland, Mass.
Temperature Control Engineers

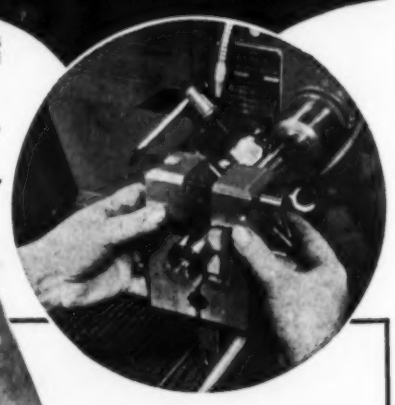
Fenwal

WRITE FOR BULLETIN ON THE
THERMOSWITCH*
*Reg. U. S. Pat. Off.
The Precision Thermostat For Temperature Control and Detection
SENSITIVE . . . *but only to heat*

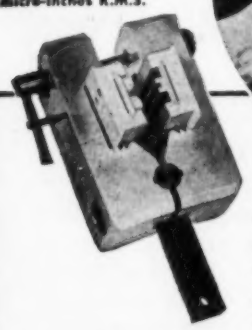
For more details circle NED-3264 on enclosed inquiry slip

HERE'S AN *ALL NEW LOW COST METHOD* of Finishing External Diameters:

SUNNEN EXTERNAL HONING



FOUR EXTERNAL HONE SETS HANDLE COMPLETE RANGE FROM .120" TO 2.750"
- Removes "cloverleaf" grind pattern
- Corrects "rainbow" warpage, taper, barrel and out-of-round
- No "washout" at shoulders, vents or ports
- Base metal finish to 2 micro-inches R.M.S.



FOR SHAFTS, SPINDLES, PLUNGERS, PINS, PISTONS, ARBORS, AND NUMEROUS OTHER PARTS FROM .120" TO 2.750" IN DIAMETER

SUNNEN EXTERNAL HONING is an entirely new method for accurately sizing and finishing external diameters. It gives you precise geometric accuracy; holds dimensional tolerances to .0001" and better. Produces a surface finish as fine as 2 micro-inches R.M.S. — is used on practically all metals.

COMBINES THE PRECISION OF LAPPING WITH THE SPEED OF HONING

Production rates are usually more than 5 times as fast as lapping. Operation is clean, convenient and fast. There are no laps to make, no loose abrasives or compound to handle, no recharging. Rigid bonded abrasive stones have a predictable cutting rate. Automatic sizing control assures exact duplication of sizes. Hone disengages instantly for gauging and unloading work. For a single part or long runs you save set-up time, production time, and gauging time.

Has Many Uses — for production jobs, tool room, salvage and maintenance. You have positive, controlled stock removal; guaranteed accuracy; any surface finish you need; high speed. Sunnen External Honing adds up to faster, better work at LOWER COST.

SEND FOR FREE BULLETIN describing the operation and advantages of Sunnen External Hones.

SUNNEN
TRADE MARK REG. U. S. PAT. OFF. • MARCA REGISTRADA
PRODUCTS COMPANY
7972 Manchester Ave. • St. Louis 17, Missouri

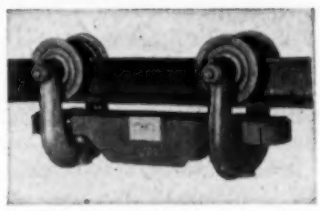
For more details circle NED-3265 on enclosed inquiry slip

TEN-TURN COUNTING DIAL
easily mounted on multiturn devices

While designed for use with Micropot ten-turn precision potentiometers, Microdial counting dial is applicable to any multiturn device of ten turns or less. It is composed of two concentrically mounted dials, one for counting increments of each turn and other for counting turns up to ten. Incremental dial having 100 equal divisions is attached rigidly to shaft so there is no backlash. Thus contact position is indicated to indexed accuracy of 1 part in 1000. Rotation is continuous in either direction. Turn-counting dial speeds up as incremental dial passes from one turn to next in order to eliminate confusion in readings close to integral turns and also distinguishes between tenth turn and zero point. Dial requires only 1¾-in. diameter of panel space. It attaches to shaft easily with single set-screw. Made by **George W. Borg Corp.**, Gibbs Div., Dept. NED-31, Delavan, Wis.

For more details circle NED-3266 on enclosed inquiry slip

TRAMRAIL TROLLEY
provides smooth easy movement of materials on overhead systems



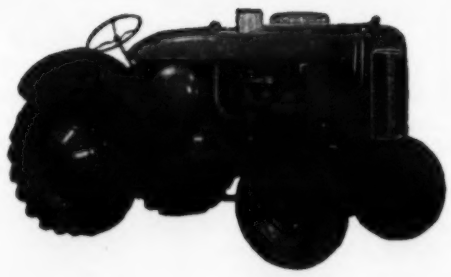
Usable on hand or electric powered tramrail systems, transfer bridges and tramrail cranes, improved Ohio tramrail trolley reduces operator fatigue and increases payloads through reduction of weight and rolling friction. Drawbar pull required is 15 lb per ton to start load and 10 lb to maintain momentum. High strength-to-weight ratio is obtained by utilizing modified tube cross section design for trolley yoke and use of channel shape rolled steel plate load bars. Trolley yoke swivels freely on rolled steel kingpin to eliminate binding of wheel flanges on curves and switches of short radii. Friction losses are minimized by use of antifriction bearings and chilled cast-iron wheels of 4½-in. tread diameter rolling on high-carbon high-manganese steel rail. Slight crown in wheel tread shifts rolling load in from edge of track. Basic trolley is four-wheel unit with 16-in. wheelbase, but lengths up to 36 in. are possible. Heavier load and longer span requirements can be met by eight-wheel trolley with yokes on centers ranging from 8-8-8 in. to 16-40-16 in. Made by **Forker Corp.**, 2040 Random Rd., Cleveland 6, O.

For more details circle NED-3267 on enclosed inquiry slip

DO YOU KNOW? Inventory control, sales analyses, departmental charges and similar operations are facilitated by Analyslips. These sets of overlapped strips, up to 30 in number, are run through Ditto duplicating machine. Slips are then torn apart and used as desired. This patented method permits breaking down list of items, by item, without rewriting. Developed by Ditto, Inc., 2302 W. Harrison St., Chicago 12, Ill.

For more details circle NED-3268 on enclosed inquiry slip

SCHRAMM *Pneumatractor*



ANNOUNCING . . . the SCHRAMM Model 60 and 105 *Pneumatractors* the latest and most modern self-propelled compressors built. A tractor-compressor combination powered with the standard Model 60 *Unistage* or the 105 *Pneumapower* Compressor. These units are also designed with a completely engineered and approved set of accessories such as front-end loaders, snow plows, backfill blades, front and rear winches, mowers, posthole diggers, rotary brushes, PNEUMAJACK, etc.

SCHRAMM INC. THE COMPRESSOR PEOPLE WEST CHESTER PENNSYLVANIA

For more details circle NED-3269 on enclosed inquiry slip

LEARN WHY THERE'S *Much Ado About Nothing* when

BEACH-RUSS *High Vacuum* **PUMPS** *are on the Job*

Let these Catalogs tell you how the ability of Beach-Russ Pumps to produce a high degree of "nothing" can put that extra "something" into your vacuum processes — whether they be chemical, electronic, atomic, metallurgical, packing, filling, chucking or testing.

Their remarkable performance record is well worth investigating. Write.

BEACH-RUSS CO.
60 Church St., New York 7, N. Y.

For more details circle NED-3270 on enclosed inquiry slip

FEROX
T. M. REG. U. S. PAT. OFF.

Destroys Rust . . . Saves Metal

FEROX solves the whole rust-waste problem.

FEROX removes all rust . . . salvages metal worth many times its cost . . . inhibits the salvaged metal from further rusting.

FEROX removes the heaviest rust scale and thinnest deposits from intricate parts . . . with amazing speed. FEROX is used full strength for heavy duty work . . . extended with 1 to 10 parts water for delicate work.

FEROX removes rust more easily, thoroughly, quickly, safely, quietly, cleanly, permanently and economically than sand blasting and while doing it, automatically inhibits metal against further rusting.

Prove to yourself that FEROX actually makes 500% profit or more. Let us ship you a 4 gallon trial unit of FEROX today. ($16. F. O. B. Phila.). Use 2 gallons to reclaim a tubful of rusted valves, pipe fittings, bolts, gears, repair parts, plates, etc. If then you aren't convinced that FEROX is extremely profitable, return the balance within 30 days, transportation prepaid, and we will cancel the invoice.

We would lose our shirt on this offer if FEROX didn't do the trick, so order your trial unit today.

DEPARTMENT F
SERVICE INDUSTRIES
2103-07 E. SOMERSET STREET
PHILADELPHIA 34, PA.

For more details circle NED-3271 on enclosed inquiry slip

SPRACO NOZZLES

Write for NOZZLE CATALOG *to*
SPRAY ENGINEERING CO.
106 CENTRAL STREET • SOMERVILLE 45, MASS.

For more details circle NED-3272 on enclosed inquiry slip

Amazing

FLASH BOX OPENER

Opens Any Carton Quicker . . . Cleaner

Exclusive patented blade holder adjustable to varying thicknesses of carton covers.

THE ONLY CARTON OPENER THAT GIVES YOU ALL THESE ADVANTAGES:

Penetrates exactly under the outer cover thickness • Protects contents of carton • Cuts clearly to permit re-use • Prevents accidents • Saves time • Eliminates fatigue. ***Already accepted by leading industries.***

Retail Price

$1.75

FLASH BOX OPENER CO., Inc.
52 W. Houston St. • New York 12, N. Y.

▲ For more details circle **NED-3273** on enclosed inquiry slip ▲

BENCH SANDBLAST

$148.00
COMPLETE

For cleaning small parts, such as dies, tools, pistons, rings, etc.

Will operate on 5 h.p. garage air compressor.

Hands in rubber gloves rotate work in blast stream.
Fan draws dust into removable bags.
Vision provided by top lights.

THE W. W. SLY MANUFACTURING CO.
4748 Train Avenue Cleveland 2, Ohio

▲ For more details circle **NED-3274** on enclosed inquiry slip ▲

Put these advantages in your product with *Marvinol*®

In hundreds of processes . . . in thousands of end products, Marvinol is giving processors the characteristics that mean sales. Marvinal formulations are stable under heat, light and time . : . have high dimensional stability, greater low-temperature flexibility, outstanding resistance to tear, wear, oils and acids. Let us show you how to utilize Marvinol's time-saving advantages. All technical information developed in our modern laboratories is at your disposal since it is through you that Marvinol reaches the consumer.

Write today for the latest technical information. Dept. E-5, Naugatuck Chemical, Naugatuck, Conn.

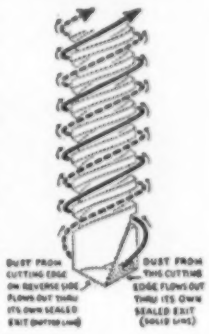
Marvinol

Naugatuck Chemical

DIVISION OF U. S. RUBBER COMPANY

▲ For more details circle **NED-3275** on enclosed inquiry slip ▲

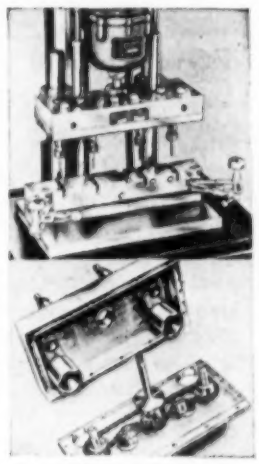
MASONRY DRILL BIT
has carbide tip and spiral channels



Double-dust lift action of Cyclo-Twist carbide-tipped rotary masonry drill bit removes dust as bit drills to insure uniform rate without stalling or need for cleaning of hole. Two spiral low-angle flutes are turned in steel drill body. Diameter of body is same as diameter of hole to be drilled, and for that reason maximum steel support is given to carbide tip. Drill bits are obtainable in sizes from 3/16 to 1-in., and larger sizes will be offered at later date. Made by **New England Carbide Tool Co.**, 54 Brookline St., Cambridge 39, Mass.

▲ For more details circle **NED-3276** on enclosed inquiry slip ▲

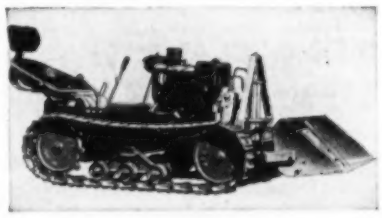
MULTIPLE TAPPING HEAD
for mass production



Minimum gear wear, quiet operation and production economies are afforded by Multi-Tapper multiple tapping and drilling device which has silent roller chain to transmit power from Torqomatic drive unit. Chain withstands constant friction and can absorb tremendous shock loads resulting from continuous forward and reverse action. Number of spindles employed is limited only by size of tap or drill and work. Made by **Charles L. Jarvis Co.**, P. O. Box 290, Middletown, Conn.

▲ For more details circle **NED-3277** on enclosed inquiry slip ▲

MIDGET BULLDOZER
800-lb unit has 4½-cu ft scoop load



Powered by 5-hp air-cooled gasoline engine, Mighty Mouse bulldozer can be used for grading, backfilling, dumping, carrying or clearing land. Scoop measures 36 in. wide, 18 in. deep and 16 in. high and will carry loads up to 500 lb. Riding on rigid six-wheel bogey assembly on 7-in. wide self-cleaning malleable iron crawler treads, machine has 800-lb draw bar pull and speed range of ½ to 6 mph forward and reverse. Gear-type V-belt driven pump affords 2000-lb lifting capacity to hydraulic cylinder. Independent drive-and-brake lever for each track affords turning radius of 8 ft. Measuring 81 in. with yoke and scoop and 26-in. high at hydraulic ram, unit can be hauled to work site in specially-designed automobile trailer. Attachments available include bucket lift, bulldozer blade and snow blade. Made by **Mead Specialties Co.**, Dept. T-40, 4114 N. Knox Ave., Chicago 41, Ill.

▲ For more details circle **NED-3278** on enclosed inquiry slip ▲

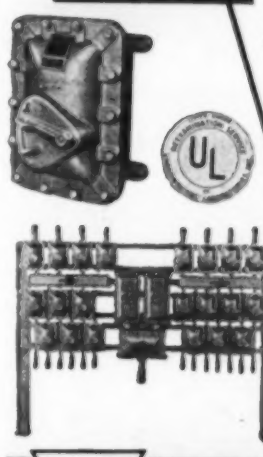
GENERAL BOX COMPANY . .
★ ★ ★ ★ ★ *engineered shipping containers*

GENERAL OFFICES: Illinois & Dearborn Sts., Chicago 10, Ill.
DISTRICT OFFICES AND PLANTS: Cincinnati, Denville, N. J., Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, Sheboygan, Winchendon. Continental Box Company, Inc., Houston, Dallas General Box Company of Mississippi, Meridian, Miss.

▲ For more details circle **NED-3279** on enclosed inquiry slip ▲

R&S MANUAL MOTOR STARTERS

Complete Line
EXPLOSION-PROOF
DUST-TIGHT
Class 1, Group D



Meet ALL Standards PLUS

REMOVABLE COVERS providing complete access to equipment for installation, maintenance and close grouping.

STAINLESS STEEL cover bolts . . . high strength enclosure with aluminum gray, corrosion resistant baked enamel finish.

FRONT ACCESSIBILITY permitting heaters to be installed or replaced without disturbing wiring or removing switch . . . abundant wiring space.

INDIVIDUAL UNITS and factory assembled panels of two or more units as illustrated . . . NEMA sizes 00 to 1 . . . also waterproof types.

DEPENDABLE OPERATION insured by 48 years of design and manufacturing experience.

Write for Catalog H47-15

A15

RUSSELL & STOLL COMPANY, INC.
Precision Built Electrical Equipment
125 BARCLAY STREET, NEW YORK 7, N. Y.

▲ For more details circle **NED-3280** on enclosed inquiry slip ▲

Comparison Proves

BIGGER PAY-OFF with a MOTO-TRUC

HERE'S WHERE WE GAIN OUR SHORTER LENGTH.
The Moto-Truc Power Unit is most compact. Only 23½" from front of truck to the back of battery.

The Shortest Pallet Truck with Simplest Control

Up to 15" SHORTER Overall Length

Moto-Trucs operate in narrower aisles, permitting expansion of storage areas, an invaluable feature, especially where space is at a premium.

The Moto-Pallet Truck, shown above, has a capacity of 4,000 pounds, and is built with 12-volt motor for level operation and 18-volt motor for ramp operation. Patented Nydegger shackles on load wheels insure smooth travel over uneven floors, elevator entrances, etc. Low level of battery mounting prevents tipping.

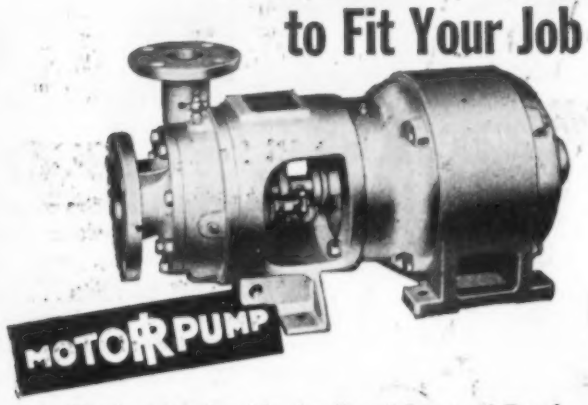
Simple control reduces operator fatigue. A turn of the wrist on easy grip roller type handle gives two speeds forward and two speeds reverse. Push buttons in ends of handle operate hydraulic lifting and lowering.

WRITE FOR CIRCULAR, PAL-265

The **MOTO-TRUC Co.**
1953 E. 59th Street
CLEVELAND 3, OHIO.
ORIGINATORS OF MOTORIZED HAND TRUCKS

▲ For more details circle **NED-3281** on enclosed inquiry slip ▲

We Have the Pump to Fit Your Job



Here's one of a big family of Ingersoll-Rand MOTORPUMPS that is being used to step up productive efficiency in applications such as supplying boiler feed, condensate return, coolant circulation, washing and cleaning operations, handling brine, gasoline, bulk oil, waste water and many others.

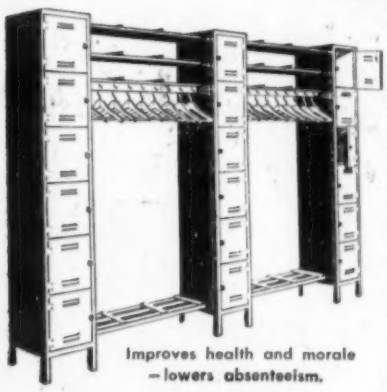
MOTORPUMPS are available in sizes from ½ to 50 h.p. discharging 5 to 1800 g.p.m. Make it a point to ask our nearest branch office for full details.

Ingersoll-Rand
11 Broadway, New York 4, N. Y. 309-9

For more details circle NED-3284 on enclosed inquiry slip

VALET RACKS

LOCKERETTE
—Combines the best features of both lockers and coat racks



Improves health and morale —lowers absenteeism.

Wraps are exposed to air and light. Employees do not face the weather in damp wraps that have been crumpled in dark lockers—do not eat soggy lunches, soaked by wet hats or gloves. Each person has his own spaced coat hanger, ventilated hat shelf and 12" x 12" x 15" deep lock box for lunches, tools and personal effects.

Lockerettes save space too . . . the No. 6-12 (2-column) accommodates 12 people in 6 feet; the No. 9-18 (illustrated) accommodates 18 in 9 feet.

Write for Bulletin No. OL 8

VOGEL - PETERSON CO.
624 So. Michigan Ave., Chicago 5, Ill.

For more details circle NED-3285 on enclosed inquiry slip

REVIVE OLD "STIFFS" with CABOT'S BRUSH CLEANER

Give new life to your old stiff, gummed-up paint brushes with Cabot's Brush Cleaner—the best on the market! Ready to use right from the can . . . fast . . . effective . . . non-inflammable . . . safe for the finest bristles. Cleans brushes right down to the heel. Won't evaporate . . . can be used over and over again.

See for yourself! FREE sample of Cabot's Brush Cleaner is yours for the asking. Write Today!

SAMUEL CABOT, INC.
553 Oliver Building, Boston 9, Mass.
Please send me a free sample of your fast, effective Brush Cleaner.
NAME_____
STREET_____
CITY_____ STATE_____

SAMUEL CABOT, INC.

For more details circle NED-3286 on enclosed inquiry slip

STEEL WASTE RECEPTACLES fitted with two independent doors

Made of heavy gage furniture steel and finished in white or green baked enamel, these waste receptacles are fitted with two silent self-closing doors which are operated by simple counterweight on inside. Both doors swing in and can be used at same time without interfering with one another. Units are supplied with separate inner bag or metal container either of which can be removed easily for disposal of contents. Top section is hinged and can be turned back for full access to inside of receptacle. Units are supplied in sizes ranging from 11½ x 11½ x 24¾ to 21 x 21 x 46 in. high. Distributed by **Industrial Products Co.**, 2807 N. Fourth St., Philadelphia 33, Pa.

For more details circle NED-3287 on enclosed inquiry slip

POWER SAW & FILE is powered by electric or air drill

Suitable for fast cutting and filing of metal, wood and plastics, Saw Gun power saw and file can be used for processing pipes, ducts, walls and flooring. In addition to being powered by 2000 or more rpm electric or air drill, it can be driven by flexible shaft. When used for cutting, hack saw blade is inserted in holder with teeth toward operator so saw cuts on ⅞-in. pull stroke; for filing, ordinary file is placed in holder and used as power driven tool. Unit is supplied with or without drills and in five models to connect with various size drill chucks or flexible shafts. Made by **Mid-States Welder Mfg. Co.**, 6029 S. Ashland Ave., Chicago 36, Ill.

For more details circle NED-3288 on enclosed inquiry slip

ADJUSTABLE LIFTING CLAMP will accommodate metal 12 in. thick

Recommended for use in tool rooms, production departments and on shipping docks, Adjusta-Clamp utilizes movable gripping jaw that can be set rapidly by hand to accommodate part to be lifted. It has ability to lift from horizontal to vertical position without changing grip as is shown in illustration. Clamp can be obtained in rated capacities of 1 and 3 tons having safety factor of five and weighing 30 and 60 lb, respectively. Made by **Merrill Brothers**, 56-31 Arnold Ave., Maspeth, N. Y.

For more details circle NED-3289 on enclosed inquiry slip

HANSEN QUICK-CONNECTIVE
WORKING PRESSURE TO 350 POUNDS

STEAM COUPLINGS

Proved, new design. Designed for pressures up to 350 pounds, saturated. Easily repacked with formed graphite and asbestos packing. High pressure coupling has simple packing take-up. Slight sleeve movement connects or disconnects plug. Machined from solid brass bar stock in ¼", ½", or ¾" pipe thread sizes.

Write for catalog

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 11, OHIO

For more details circle NED-3290 on enclosed inquiry slip

STAYNEW GAS FILTERS

For Compressors, Gas-fueled Engines and Processes

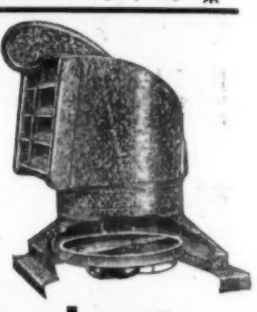
DOUBLE ACTION Principle Guarantees both CLEAN & DRY gas

Removes injurious pipe scale, rust, dust, dirt, water and other foreign matter from artificial or natural gas. Filter employs both mechanical separation and filtration. Deflector cup (A) directs gas to walls of housing, thence to base where heavier particles and liquids are deposited. Gas then rises thru exclusive Radial Fin Insert (B) where lighter particles are removed. Use steadily increasing in petroleum industry.

DOLLINGER CORPORATION
49 CENTRE PK., ROCHESTER 3, N. Y.
DOLLINGER PROTECTOMETER STAYNEW FILTERS

COMPLETE DATA ON REQUEST

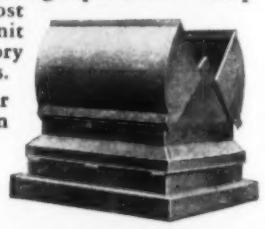
For more details circle NED-3291 on enclosed inquiry slip



Triple threat to bad air in your plant

● Where you have concentrated heat, smoke or fumes, use *power* to expel it. Airjector, Valvent and Ject-O-Valve Ventilators help you profit by Swartwout's 45 years ventilating experience. We help you select most economical unit for your factory conditions.

Write for Bulletin 338C.

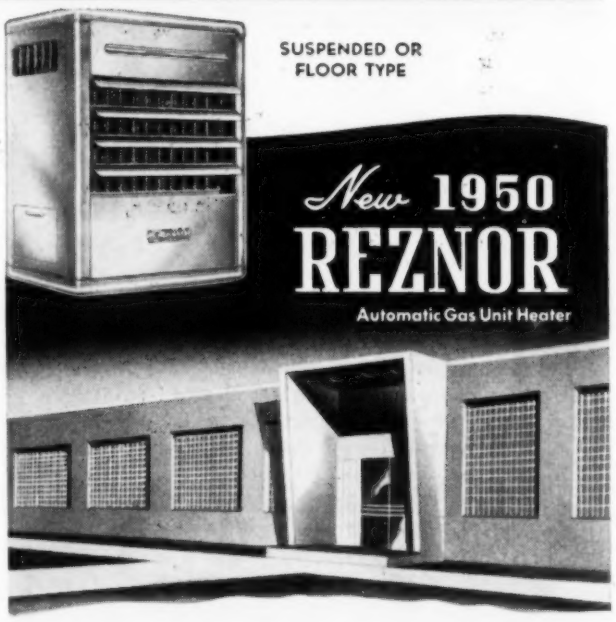


Also gravity type ventilators and intake louvers.

18511 Euclid Avenue, Cleveland 12, Ohio

The Swartwout Co.
Industrial Ventilation Specialists Since 1904
Equipment for *Controlled* Air Circulation

For more details circle NED-3292 on enclosed inquiry slip



Quiet, automatically circulated heat delivered at low cost makes you and your employees more efficient . . . your customers more satisfied. Reznors are the world's biggest selling gas unit heaters. Used to heat large and small areas in homes, offices, garages, stores and public buildings. See your dealer or write for information about the new 1950 Reznor Heater.

Gas Unit Heaters Since 1888

REZNOR MANUFACTURING CO. . 14 UNION ST., MERCER, PENNA.

For more details circle NED-3293 on enclosed inquiry slip

CUT STEAM COSTS

SAVE FUEL AND LABOR!

- High efficiency cuts fuel costs as much as 40%.
- Packaged design saves excessive installation costs.
- Automatic operation frees engineer for other duties.
- Delivered completely wired and factory-tested.
- Mounted on steel base—no bricking required.
- Constructed to A.S.M.E. Boiler Code.
- All units approved by Underwriters' Laboratories.
- Widespread service by factory-trained men.

High and low pressure units from 15 to 300 HP. available for light oil, heavy oil, gas or combination gas-oil firing. *Free catalog mailed on request—write*

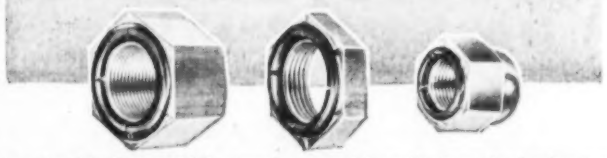
ORR & SEMBOWER, INC.
930 Morgantown Rd. • Reading, Pa.

For more details circle **NED-3294** on enclosed inquiry slip

THERE'S A RIGHT LOCK NUT FOR YOUR JOB!

Chances are four out of five it's An-cor-lox. Check these advantages!

- Can't shake loose
- Not affected by sawed-off or drilled bolts
- Can be re-used many times
- Locking ring on bottom, uses short stud
- Uses standard wrenches
- Won't damage bolt or work
- Competitively priced
- Spins on stud by hand
- Locking ring forms a pressure seal
- Not affected by temperature
- Choice of finishes for corrosive or severe atmospheric conditions



Get the right lock nut! We strongly urge a careful testing and will be glad to have our engineers check special applications. Send today for our descriptive folder or free standard samples to fit your particular needs.

An-cor-lox TRADE MARK REGISTERED *Lock Nuts*

LAMINATED SHIM CO., Inc., *An-cor-lox Division,* 2305 Union St., Glenbrook, Conn.

AN-COR-LOX NUTS • SHIMS • SHIM STOCK • STAMPINGS

For more details circle **NED-3295** on enclosed inquiry slip

For High Ratio Reduction in Limited Area—Specify LINK-BELT Worm Gear Drives

Whenever your speed requirements call for high ratio reductions from 3⅝ to 1, to 8000 to 1, with speeds in the low and medium power range, Link-Belt Worm Gear Drives save you space and money.

Compact, simple and durably built, with single or double worm reductions, horizontal or vertical output shaft, these drives offer extreme flexibility of application.

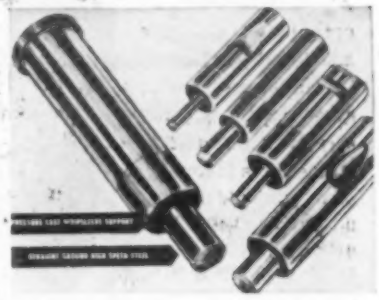
LINK-BELT COMPANY
Philadelphia 40, Chicago 9, Indianapolis 6, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8. Offices, Factory Branch Stores and Distributors in Principal Cities.

Send for Book 1824
It gives full engineering data to aid you in selecting the drive for your exact need.

11,793

For more details circle **NED-3296** on enclosed inquiry slip

HIGH SPEED STEEL PUNCHES incorporate shrunk-on support



Any style of punch to fit any type of retainer can be supplied with pressure-cast and shrunk-on Whipsleeve that rides back of point and strengthens slim working diameter at its fracture point. This support eliminates vibration, whipping and shifting, and also serves as guide in stripper and permits use of straight-through drill bushing as guiding member. Straight grinding parallel to long axis of punches eliminates grinding marks at circumference. Made by **Pivot Punch & Die Corp.,** 381 Old Niagara Falls Blvd., North Tonawanda, N. Y.

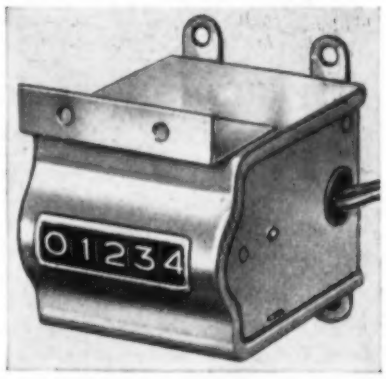
For more details circle **NED-3297** on enclosed inquiry slip

PLASTIC LINED BARREL has 1/32-in. polyethylene coating

Thirty and fifty-gallon Hackney open head seamless barrels can be supplied with acid-resistant polyethylene coating sprayed by Schori Flame Spray Pistol. For use where linings are subject to mechanical abuse, ⅛-in. thick coating can be furnished. Since coatings are permanent, drums are returnable and can be used indefinitely in shipping, storing or processing. Linings resist almost all chemicals. Made by **Ferro-Co Corp.,** Schori Process Div., 43rd Rd. at Ninth St., Long Island City 1, N. Y.

For more details circle **NED-3298** on enclosed inquiry slip

SMALL ELECTRIC COUNTER is designed for flush mounting



This small Mercury electric counter is intended for mounting on panels and for built-in applications where flush mounting is advantageous. It is completely enclosed in tamperproof metal case with plastic window. Of nonresetable type, it counts to 99,999 and repeats. Capable of 600 counts per minute, counter can be furnished for operation on 6, 24, 30, 115 or 230-v 60-cycle ac or 6, 24, 30 or 115-v dc. It measures 2⅜ x 1¾ x 2¼ in. and is priced at $6.93. Made by **Production Instrument Co.,** 700-12 W. Jackson Blvd., Chicago 6, Ill.

For more details circle **NED-3299** on enclosed inquiry slip

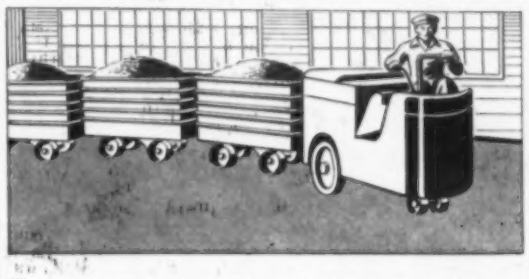
SAFEWAY . . . a new and rugged light weight chain hoist

Designed to keep pace with today's demands for greater efficiency in materials handling, this new Wright hoist is light in weight, high speed, compact, strong, easy to service, long lived. Capacities from ½ to 4 tons. Load chains of steel—heat treated—proof-tested—have high wearing qualities and high safety factor against possible impact loads. Weldments of projection type. Load wheel reversible. Weston type brake resistant to high temperatures; cold, wet and dusty atmosphere. Send for bulletin DH-164.

WRIGHT HOIST DIVISION
American Chain & Cable
York, Pa.

For more details circle **NED-3300** on enclosed inquiry slip

There's UNEQUALED STRENGTH *in every* FLASH-STONE FLOOR!



EVERY FLASH-STONE FLOOR IS A SPECIALIZED FLOOR!

Flash-Stone floors have been developed beyond the strengths and resistances of other offerings in their respective fields . . . for every purpose and industry!

SPECIALIZING IN
1. High Strength Concrete
2. Bituminous and Mastic Mixtures
3. Composition Floors

Write today for FREE literature on industrial floors.

FLASH-STONE COMPANY, INC.
ERIE AND PULASKI AVES., PHILA. 40, PA.

For more details circle **NED-3301** on enclosed inquiry slip

GOOD "SHOPKEEPING" PAYS DIVIDENDS IN INCREASED PRODUCTION . . . ELIMINATES HEALTH HAZARDS . . . IMPROVES WORKING CONDITIONS . . . BOOSTS EMPLOYEE MORALE. GOOD "SHOPKEEPING" REQUIRES MODERN CLEANING EQUIPMENT . . . TORNADO* CLEANERS YEARS AHEAD . . .

TORNADO* Heavy Duty Industrial Vacuum Cleaners have been proven by 19 years of constant use in industry for floor and overhead cleaning. Users report substantial time and labor saving with better results. One-stroke positive suction gives instant, thorough cleaning first time over.

Picks up Water, Machine Oil, Moisture, Dirt and Grime without adjustments. Operator moves right along picking up all wet or dry substances in stride. Leaves a clean, dry, safe surface.

Conversion Features Increase Usefulness. Power unit becomes a handy, powerful, portable blower. Shoots a concentrated stream of clean, dry air to blow abrasive dirt out of motors, machinery, gears, shafting, etc. Same power unit is used as pack-carried vacuum cleaner in congested plant areas or other hard to reach places.

Gives Complete Good "Shopkeeping" Service. Easy to operate. Sturdy in construction. Light in weight, yet extremely powerful.

*Trade Mark Reg. U. S. Pat. Off.

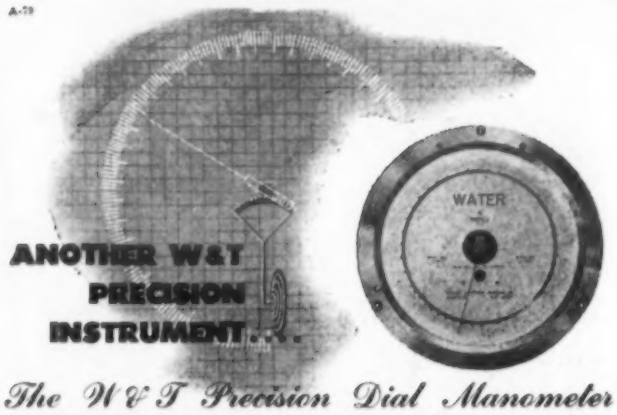
***Bulletin 592 gives complete information.* WRITE FOR IT!**

BREUER ELECTRIC MFG. CO.
5098 Ravenswood Ave.
Chicago 40
Illinois

INDUSTRY

For more details circle **NED-3302** on enclosed inquiry slip

A-79



ANOTHER W&T PRECISION INSTRUMENT....

The W & T Precision Dial Manometer

The W&T Precision Dial Manometer answers the problem of conveniently measuring pressure with a sensitivity of 1 part in 10,000.

This sturdy, compact instrument, which is widely used for wind tunnel work, power plant test stands and in gas turbine testing, has a large easy-to-read dial. It is custom calibrated in any pressure units over various ranges up to a maximum of 200 inches of mercury.

In addition, the W&T Precision Dial Manometer possesses these outstanding advantages:

Accuracy .....1 part in 1000
Scale length ..45"
Case .....pressure tight, metal for flush mounting.
Full protection against over pressure.
Measures gauge pressure, vacuum and differential pressure.

This instrument with its sensitive response and precision results is typical of a wide variety of pressure instruments of all types — from low pressure indicators to altimeters — manufactured by W&T. If you have a problem in pressure measurement, write, telling us the details. We'll be glad to help.

WALLACE & TIERNAN PRODUCTS, INC.
ELECTRICAL MECHANISMS AND PRECISION INSTRUMENTS
Belleville 9, New Jersey • Represented in Principal Cities

▲ For more details circle **NED-3303** on enclosed inquiry slip ▲

YOUR BEST BET

to get simple, inexpensive speed control from *a-c power*

Have you a machine whose output could be increased or performance improved by installing a simple low-cost adjustable-speed drive?

A General Electric Tri-Clad ACA motor might be the answer. Look at these points in its favor:

IT RUNS ON A-C POWER! No conversion equipment whatsoever is needed. Make the usual electrical connections, couple the shaft to the load, and the ACA is ready for work.

YOU DIAL THE SPEED! A simple twist of the dial on top of the motor gives you any speed up to 20:1, *and* it's held within narrow limits regardless of load changes.

IT'S A REAL "PACKAGE" DRIVE! The entire drive (except starting control) is enclosed in a single housing only slightly larger than a constant-speed motor of the same rating.

WANT MORE INFORMATION?

Here's what to do. FIRST, write us for a copy of Bulletin GEA-4883 which describes the ACA motor in detail. Or, if you want to know more about adjustable-speed drives in general, ask for Bulletin GEA-5334. SECOND, if you'd like the help of a specially trained engineer on a specific adjustable-speed application, call your nearest G-E office. *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*

Quick Facts

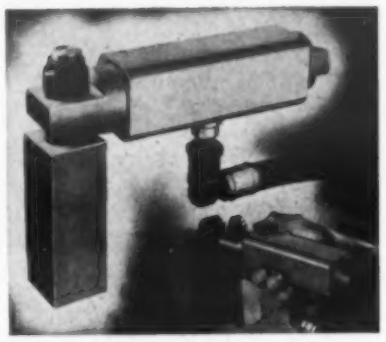
ABOUT GENERAL ELECTRIC ACA MOTORS

SPEED RANGE—3:1 and 6:1 (continuously), 20:1 (intermittently)
HORSEPOWER—3 to 75
VOLTAGE—220, 440/550 volts—a-c, 60 cycle, 3-phase power
STARTING—Full voltage (Secondary control when creeping speeds are required)
SPEED REGULATION—5 to 10 per cent on the high-speed setting
The ACA motor is one of a complete line of General Electric adjustable-speed drives.

GENERAL ELECTRIC
646-11

▲ For more details circle **NED-3304** on enclosed inquiry slip ▲

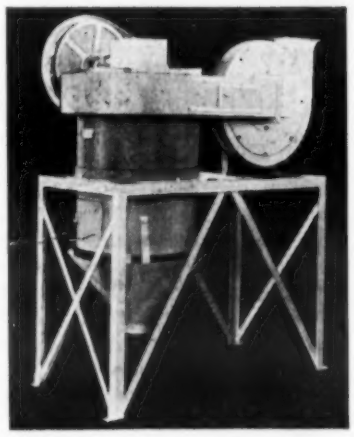
PNEUMATIC VIBRATORS
1¼ and 2-in. sizes are portable



Alloy steel stud incorporated in type SAH pneumatic vibrator is inserted in sleeve type mounting bracket that is welded to hopper, bin, screen, flask, concrete form or other equipment requiring vibration. Operating on 100-psi line pressure, smaller size vibrator delivers 2500 blows per minute and larger model produces 1250 vibrations per minute. Vibrators will operate efficiently on air pressures from 50 to 100 psi, and 360-degree air intake swivel connector facilitates positioning and handling. They start instantly with full power and are built for continuous operation. Made by **Cleveland Vibrator Co.**, 2744 Clinton Ave., Cleveland 13, O.

▲ For more details circle **NED-3305** on enclosed inquiry slip ▲

SINGLE-DISK ASPIRATOR
designed to remove light impurities



Usable in chemical and food industries, model No. 21 all steel single disk aspirator is capable of removing wild flax, chaff, hulls and split rice kernels without losing any of desired product. Gravity fed product drops through adjustable feed sleeve onto 21-in. saucer-like cast-iron disk that revolves at predetermined speed of 98 to 160 rpm, depending on product being handled. Because of friction drive, operation is quiet and efficient; and 2-hp motor drives both disk and aspirating fan. Made by **Sprout, Waldron & Co., Inc.**, 179 Sherman St., Muncy, Pa.

▲ For more details circle **NED-3306** on enclosed inquiry slip ▲

PREPAINTING METAL CLEANER
effectively removes oils and rust

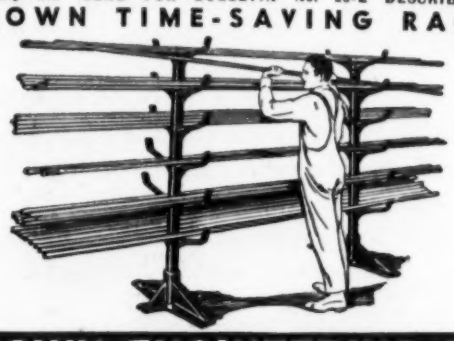
Having solvent and detergent properties, compound No. 33 removes stamping and forming oils, rust preventives, carbon smuts, soldering and welding fluxes and similar soils. In addition material contains acid ingredients that act to remove rust, heat scale, tarnish and other oxides. It has ability to convert surface layer of metal into thin film of insoluble phosphates which provides good bond for paint. Material has good conditioning action on aluminum sheets and castings. It can be applied by soak-tank or hand-swabbing methods. Made by **Oakite Products, Inc.**, 132G Thames St., New York 6, N. Y.

▲ For more details circle **NED-3307** on enclosed inquiry slip ▲

HOW YOU CAN BOOST YOUR PROFITS

The BROWN TIME-SAVING RACK saves the time previously lost end-hauling each bar of stock its entire length from the old-style, closed-side Rack, the Brown Rack requiring but a few inches of side movement. Each length, width and thickness of stock is displayed in goldfish visibility for instant selection. WORKMEN WAITING FOR STOCK ARE SERVED WITHOUT WASTE OF TIME, AND RETURNED TO THEIR PRODUCTION MACHINES TO TURN OUT A MAXIMUM OF OUTPUT. Any time you require additional storage space, all you need do is to add more units. If you want to relocate it at any time, you can do so for it is unattached to the building. It is a simple, durable article made of metal in five styles. It can't burn, warp, sag or twist: depreciation is practically nil. SEND FOR BULLETIN No. 26-E DESCRIBING THE

● BROWN TIME-SAVING RACK ●



BROWN ENGINEERING CO.
129 N. THIRD ST. READING, PENNA.
RACKS • VISES • CLUTCHES • COUPLINGS

▲ For more details circle **NED-3308** on enclosed inquiry slip ▲

Ask the Man with Holes in His Head!

...to cut your boring costs

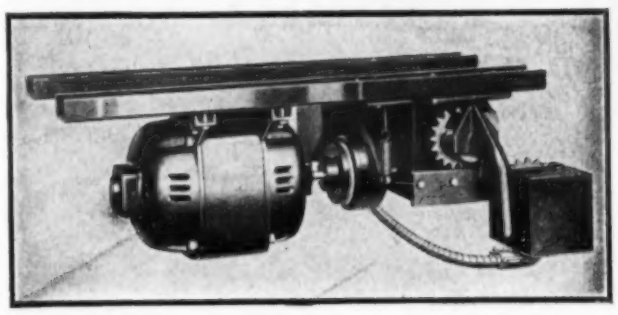
What'll it get you to ask about boring? Just this — lower costs. Lower costs through savings in time and money. Because "the men with holes in their heads" provide newer, faster, lower cost methods of boring. You may need special bars and special cutters. If so, they'll be designed for you. More likely the right standard Madison cutter in the right Madison bar can give you full production economy . . . and the Madison line of boring tools is broad enough to fit nearly any boring problem. Why not let Madison — experienced specialists in boring and boring only — cut your boring costs? Ask us. A brief letter will do it. No obligation of course. *Write for the information filled Madison Catalog.*

BETTER BORING TOOLS . . . MORE BORING EXPERIENCE

MADISON MANUFACTURING COMPANY
Dept. ED Muskegon, Michigan

▲ For more details circle **NED-3309** on enclosed inquiry slip ▲

BARBER-COLMAN



Electric DOOR OPERATORS
...FOR DOORS *and* GATES

SAVE time, save trouble, save money . . . improve efficiency, reduce heating costs, eliminate drafts, make door-opening easy . . . with Barcol Electric Door Operators. Models available for swinging, sliding, overhead, or steel rolling doors, and for sliding gates. Built-in safety features. See your Barcol representative for details, or write us for descriptive bulletins.

BARCOL

FACTORY-TRAINED SALES and SERVICE REPRESENTATIVES in PRINCIPAL CITIES

BARBER-COLMAN COMPANY
108 MILL ST. • ROCKFORD • ILLINOIS

▲ For more details circle **NED-3310** on enclosed inquiry slip ▲

Asbestos Gloves for HOT Jobs

HANDLE hot things with safety. Wear Industrial's famous 210 asbestos gloves. Made of close woven 2½ lb. Underwriters Grade cloth that resists burning. Big, roomy cut, airy and comfortable. One piece construction with no seams at wrist or working edges to burn or pull out. Furnished lined or unlined. Almost 40 years experience designed and made these dependable gloves. Many styles. Write for prices and catalog.

Industrial Gloves Co.
1530 GARFIELD STREET, DANVILLE, ILLINOIS
In Canada: Safety Supply Company, Toronto

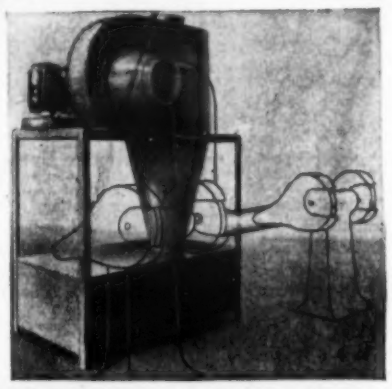
▲ For more details circle **NED-3311** on enclosed inquiry slip ▲

STOP DUSTS

. . with low cost, unit-type DUSTKOPS. They're Ductless . . . quickly installed.

250cfm to 3600cfm
¼hp to 5 hp

Immediate shipment from stock means immediate stopping of dusts, lint, dirt, shavings etc.



For the least costly dust collecting method describe your problem. No obligation.

Aget-Detroit Co.
Ann Arbor, Mich.

▲ For more details circle NED-3312 on enclosed inquiry slip ▲

A FRESH APPROACH TO AN OLD PROBLEM

SYNTRON
"Vibratory"

SMALL PARTS FEEDERS

Provide Automatic, Oriented Position, Single Line Feeding

Feed various types of small parts—washers, shims, lamp bulbs and bases, buttons, etc.—to inspection and counting devices, packaging machines and other automatic processing equipment. 3600 vibrations per minute move parts up spiral track where "selectors" orient them for discharge.

Send us details of your problem —and sample parts for testing. We'll be glad to submit recommendations and quote prices.

Write to—

SYNTRON CO.
405 Lexington Ave. Homer City, Pa.

▲ For more details circle NED-3313 on enclosed inquiry slip ▲

UNBRAKO

KNURLED SOCKET HEAD SHOULDER SCREWS

"HEAD AND SHOULDERS" ABOVE THEM ALL!

UNBRAKO Socket Head Shoulder Screws with *Knurled Heads* . . . are preferred by die-makers everywhere . . . but are useful for many machine applications. Their knurled heads provide a slip-proof grip—even if fingers and heads are oily or greasy—thus materially speeding production.

UNBRAKO Shoulder Screws are available in full range of standard sizes—other sizes to special order.

Write for further details, today.

SPS STANDARD PRESSED STEEL CO.
JENKINTOWN 24, PENNSYLVANIA

▲ For more details circle NED-3314 on enclosed inquiry slip ▲

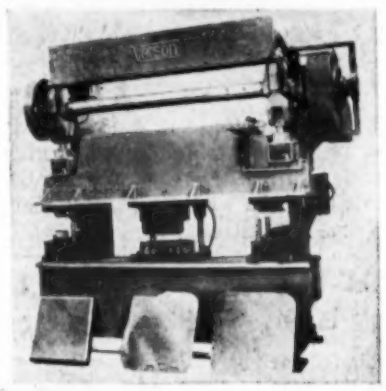
CENTRIFUGAL PUMP is self-priming portable type

Recommended for irrigation, fire protection and sump pumping, figure 3670 self-priming centrifugal pump is powered by 1.66-hp air-cooled gasoline engine, can pump up to 58 gpm, has suction lift up to 25 ft and can pass solids up to 3/16-in. Single shaft eliminates coupling to assure proper alignment. Mechanical seal is self-adjusting for wear and requires no lubrication. Lightweight aluminum casing is designed so that when pump is stopped, discharge and suction lines drain back into source of supply while adequate amount of liquid remains for repriming. Volute arrangement permits exhausting suction line with initial priming charge of liquid in casing. Made by **Goulds Pumps Inc.**, 600 Fall St., Seneca Falls, N. Y.

▲ For more details circle NED-3315 on enclosed inquiry slip ▲

PRESS-BRAKE TOOL-UP dies permit forming of ball corners

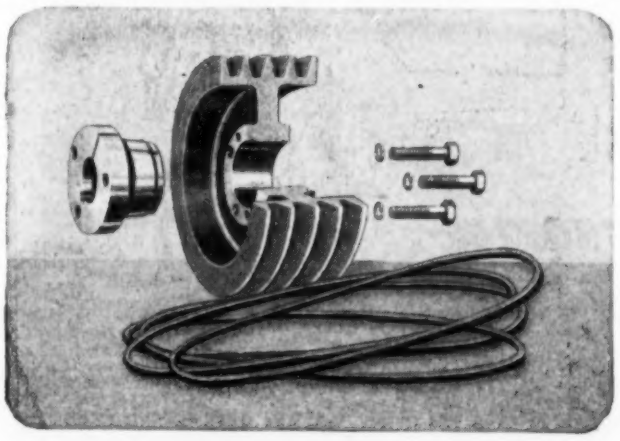
Standard press brakes equipped with three sets of dies can form ball corners with minimum spoilage, elimination of corner welding and finishing, and substantially reduced handling. Operations start with square sheared blank, and illustration shows procedure. Die on right trims two ball corners in four strokes. Center die draws corner in four strokes, and die on left cam-trims surplus material from corners. Fourth operation, restriking side flanges, requires four strokes and is performed in second brake equipped with sectional restrike die. This consists of pair of master ends and filler blocks to permit restriking any length within capacity of brake. Tool-up is easily and economically adapted to wide variety of sizes. Process developed by **Verson Allsteel Press Co.**, 9329 S. Kenwood Ave., Chicago 19, Ill.



▲ For more details circle NED-3316 on enclosed inquiry slip ▲

DO YOU KNOW? Complete equipment for the metal coating of such products as plastics, crystals, glass, paper, textiles, lenses, light reflectors, optical parts, jewelry and automobile insignia is now available. Packaged installations consisting of vacuum chambers, pumping units, product mounting assemblies and complete vacuum instrumentation are offered. Also announced is technical advisory service. Write to F. J. Stokes Machine Co., 5900 Tabor Rd., Philadelphia 20, Pa.

▲ For more details circle NED-3317 on enclosed inquiry slip ▲



Efficient Transmitters of Power

Wood's **"SURE-GRIP" V-BELT DRIVES**

Perfectly matched in quality and performance, Wood's V-Belts and V-Belt Sheaves deliver constant, uniform speeds. With equal efficiency, they absorb both overloads and fluctuating surges of power . . . increase production and reduce costs of maintenance. Complete engineering data is contained in our new V-Belt Drive Catalog, No. 192—write for it today.

T. B. WOOD'S SONS CO.
CHAMBERSBURG, PA.

▲ For more details circle NED-3318 on enclosed inquiry slip ▲

Specify REGULEX CONTROL

REGULEX M. G. set for machine drive control.

..For Regulation Problems!

Whatever your regulation problem — controlling voltage, power, current, speed . . . or any condition that can be converted into volts, amps, or watts — versatile REGULEX control may help you solve it . . . more accurately and with quicker response.

As a voltage regulator, REGULEX control maintains ½ of one per cent sensitivity from no-load to full load. Because of its instant response and sensitivity REGULEX control is used in power plants and steel mills to control alternators, synchronous condensers, d.c. generators and for speed matching.

Call your nearby Allis-Chalmers sales office or write direct for Bulletin 14B6897. A-2884

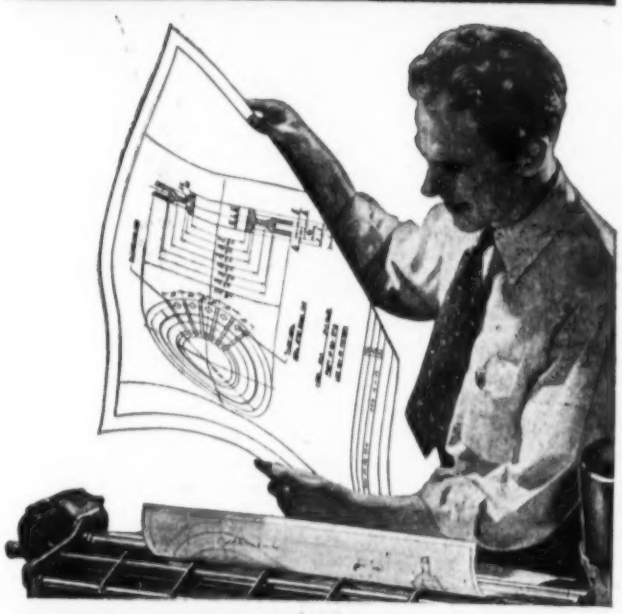
Regulex is an Allis-Chalmers trademark.

ALLIS-CHALMERS, 918A SO. 70 ST. MILWAUKEE, WIS.

ALLIS-CHALMERS

▲ For more details circle NED-3319 on enclosed inquiry slip ▲

Want blacker, longer-lasting prints?



DIRECTO

Try this new, improved, better paper and you'll agree you've never seen such clean-cut direct positive prints

Better new chemicals and better new papers have been combined to give you direct positive prints with blacks that are really black on whiter-than-ever backgrounds. Prints made on DIRECTO paper have lines that are clean, sharp, permanent, fade-proof. DIRECTO prints stubbornly resist tearing, wearing.

Depend on DIRECTO, too, for uniformly black lines, for DIRECTO developing solution is chemically stable, always brings out strong black images, whether mixed fresh or old. Blue, pink, yellow and green background colors, in addition to white, are now available, in rolls or cut sheets. **EUGENE DIETZGEN CO. • Chicago • New York • San Francisco • New Orleans • Los Angeles • Pittsburgh • Washington • Philadelphia • Milwaukee •** ***Dealers in All Principal Cities***

SAMPLES

FREE SAMPLES

Test DIRECTO in your own shop, office, field work. Write on your company letterhead for stock samples, sent without obligation.

DIETZGEN
DRAFTING, SURVEYING & PRINT-MAKING MATERIALS, INSTRUMENTS & EQUIPMENT

▲ For more details circle NED-3320 on enclosed inquiry slip ▲

The True Ball Joint of Dart unions are spherically-ground to form true-bearing surfaces. The reason Darts close tight . . . stay tight. **Less Expensive!** You can get a snug fit easily without marring the seats of a Dart. Uncouple them easily, too . . . use them over and over again. **Practically Indestructible** malleable iron is used for body and nut of Dart unions. Another important feature that means longer service.

E. M. DART MFG. CO., Providence 5, R. I.

▲ For more details circle **NED-3323** on enclosed inquiry slip ▲

ROLL TRUCKS & SKIDS

ROL TRUK

● The RolTruk is a heavy duty truck that easily lifts and moves cylindrical items weighing up to 2000 lbs. Various models for more efficient, easier handling and transporting of paper rolls, barrels, drums, kegs, etc. Bulletin 10RT.

● The Ironbound "safety-skid" with rounded corners, flush angles and countersunk bolts. This construction assures greater operator safety at a minimum of cost. Still the low-cost time proven method for handling of materials.

★ Skid with safety-type legs and reversible box top. Built so that additional skids and box tops can be tiered to any height. This is only one of the many specially designed skid and semi-live skid super structures—Ironbound engineered—for lower cost material handling.

IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
55 HOFFMAN PLACE • HILLSIDE, N. J.

SKIDS • SEMI-LIVE SKIDS • DOLLIES • FLOOR TRUCKS

▲ For more details circle **NED-3324** on enclosed inquiry slip ▲

FOR **QUIET TELEPHONING**

—ANYWHERE
USE A BURGESS-MANNING ACOUSTI-BOOTH

Thick walls of sound-absorbing material soak up noise. You can hear easily . . . talk comfortably in noisy surroundings. Suited to any location. Modern in appearance. Wall and floor models.

ALSO
- Stores
- Bus Terminals
- Banks
- Offices

MAIL COUPON FOR FREE BULLETIN

BURGESS-MANNING COMPANY
743-C East Park Avenue, Libertyville, Illinois
Please send booklet describing Burgess-Manning Acousti-Booths.
Name_____
Firm Name_____
Street—City_____

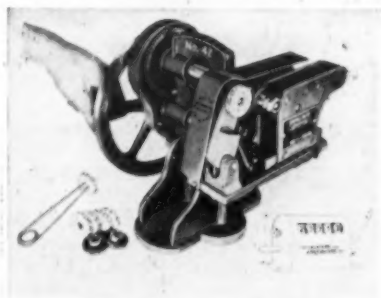
▲ For more details circle **NED-3325** on enclosed inquiry slip ▲

SELF-LOCKING CAP NUTS
have extra height and deep thread

Certain hex and anchor nuts are now available with lightweight metal caps sufficiently high to insure full clearance for AN-3 and AN-4 bolts or AN-509 screws. Deep screw-thread penetration of these nuts offers great flexibility for production line use. Red elastic collar and cap also form pressure seal against external or internal liquid and gas pressures of 80 psi without leakage. Nuts afford protection against vibration, do not damage bolt threads and maintain exact adjustments even after repeated use. Made by **Elastic Stop Nut Corp. of America,** 2350 B Vauxhall Rd., Union, N. J.

▲ For more details circle **NED-3326** on enclosed inquiry slip ▲

PRINTING MACHINE
prints numbers on face of wheels



When hand operated, No. 42 machine prints figures on peripheral face of counter, speedometer and indicator wheels at rate of 9 to 12 per minute. With motor drive, speed can be increased to that of operator's feeding rate. Machine has ink fountain that uses enamel or special printing ink, and figure printing wheels are Acroprene acid-resistant synthetic rubber. Made by **Acromark Co.,** 7-11 Morrell St., Elizabeth 4, N. J.

▲ For more details circle **NED-3327** on enclosed inquiry slip ▲

GAS-ELECTRIC POWER UNIT
is rated at 36, 48, 60 or 72 v

Designed for use with 4000-lb fork, 10,000-lb platform and 600-lb industrial crane trucks, improved model H gas-electric power plant employs tubular flange type flexible Lord engine mountings to eliminate strains being transmitted from frame of truck to engine. Features include flexible oil line, front support conversion, oiler for governor that permits cleaning without disassembly, oil filler and breather unit located on cylinder head, combination fuel pump and filter and improved muffler design. Fuel tank which was formerly located inside unit housing is now fitted into recessed area on outside of engine housing. Made by **Ready-Power Co.,** 3832 Grand River Ave., Detroit 8, Mich.

▲ For more details circle **NED-3328** on enclosed inquiry slip ▲

SHORTER and SNAPPIER!

New Rotor "Multi-power" Chipper gets into crowded quarters . . . gets the job done faster

The "doughnut" valve of the 15 new Rotor "Multi-power" Chipping Hammers makes possible greater compactness of design and gives faster cutting. It is a real "cost-sinker".

Shorter and lighter. The 15 new "Multi-power" Rotor Chippers average 1" to 2" shorter than other chippers—easier to get into corners. It weighs 1½ to 2 lbs. less than other hammers—easier to handle.

3 Tools in 1. The unique design makes it easy to adapt each hammer for 3 types of service by a simple change of parts. You have: (1) A "regular" model, (2) A "super-speed" model, (3) A "super-sock" model—to match your job.

Faster. New exclusive design of valve and hollow piston gets jobs done faster.

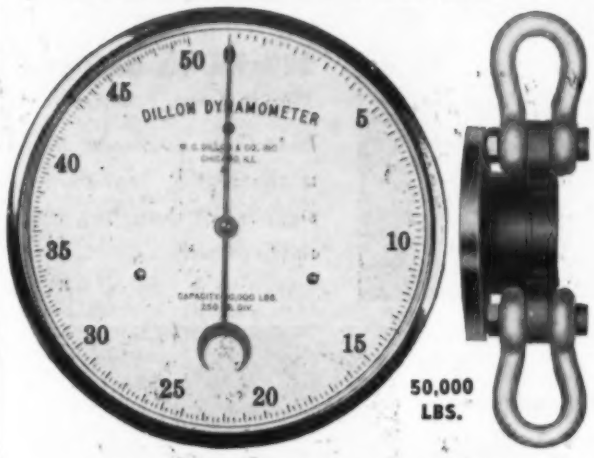
Write for complete details today! Ask for catalogue No. 37.

AIR O'TOOL

AIR — THE ROTOR TOOL CO. — HIGH CYCLE
CLEVELAND, OHIO
UNBIASED ANALYSIS OF PORTABLE TOOL PROBLEMS

▲ For more details circle **NED-3329** on enclosed inquiry slip ▲

HIGH CAPACITY
IN A SMALL PACKAGE



DILLON TRACTION DYNAMOMETER

For weighing heavy objects or testing strength of fabricated assemblies. Compact, easy to handle. **12 DIFFERENT CAPACITIES FROM 0-500 LBS. UP TO 0-50,000 LBS.** Low in cost—prompt shipment. Has dozens of uses in the average plant. Write for illustrated literature and complete price list.

W. C. DILLON & CO. INC. 5410NE West Harrison St. Chicago 44, Illinois

▲ For more details circle **NED-3330** on enclosed inquiry slip ▲

Wales Fabricator starts producing parts immediately from drawings . . . NO TEMPLETS REQUIRED.

SLIDE RULE
For Cost Estimating, Machine Loading and Subcontract Pricing with
WALES FABRICATORS

● Now, you can figure the time and cost of each part and complete run on a Wales Fabricator whether the part is in the engineering, planning or production stage.

There is nothing like this revolutionary Wales Fabricator. It punches, notches and nibbles. Wales exclusive Hydra-New-Matic Drive is unique in its simplicity of design and operation . . . so unique, in fact, the vibration and noise is practically eliminated at 165 strokes a minute. This drive, plus Wales patented "Quick-Change" System makes possible startling "never-heard-of-before" time study figures.

Write for your FREE Slide Rule TODAY and compare THE WALES METHODS *with your present operations.*

WALES-STRIPPIT CORPORATION
George F. Wales, Chairman
363 PAYNE AVENUE, NORTH TONAWANDA, N. Y.
(Between Buffalo and Niagara Falls)
Wales-Strippit of Canada Ltd., Hamilton, Ontario

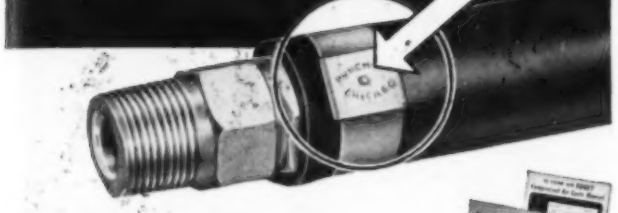
Specialists in Punching and Notching Equipment

▲ For more details circle **NED-3331** on enclosed inquiry slip ▲

For Production and Maintenance

PUNCH-LOK
HOSE CLAMPS and FITTINGS

LOOK—it's locked for Safety

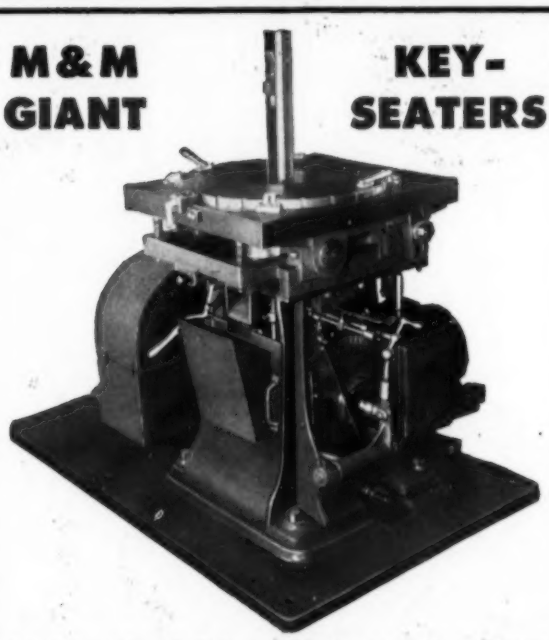


Today's Best Bet—For Leakproof Hose Connections
Write for Catalog and Air Leak Cost Chart

PUNCH-LOK COMPANY
Dept. S, 321 North Justine Street, Chicago 7, Illinois

For more details circle NED-3332 on enclosed inquiry slip

M&M GIANT KEY-SEATERS



Giant Keyseaters, built in various sizes, speedily and accurately cut keyways or splines in pulleys, gears, and other machine parts. Special fixtures and cutters are available for those "hard-to-do" internal finishing operations which cannot be efficiently accomplished otherwise. Send us your problems.

MITTS & MERRILL
1000 SOUTH WATER STREET • SAGINAW, MICHIGAN

For more details circle NED-3333 on enclosed inquiry slip

Twenty-five heavy rough forgings are strapped into one secure unit to permit easy handling with a magnet crane. Three Gerrard Round Steel Straps hold each bundle firmly.

TIE IT TIGHT...
that means GERRARD!

Tight as tight as can be... that's the kind of tie Gerrard Strapping gives you. Gerrard Round Strapping clinches evenly at corners . . . danger of breakage is sharply reduced. Packages remain firm from plant to destination.

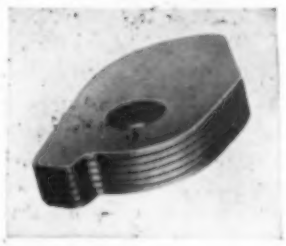
Gerrard Strapping can be used for small parcel post packages, heavy pallets or carload lots of steel pipe and plate. And Gerrard Round Steel Strapping costs about 40% less than any other metal reinforcement.

Write for a *free* copy of *Blue Book of Packaging*. And consult a Gerrard engineer about your packaging problems. His services are available free of charge. **Gerrard Steel Strapping Company, 4717 South Richmond St., Chicago 32, Ill.**

USS
GERRARD ROUND STEEL STRAPPING
UNITED STATES STEEL

For more details circle NED-3334 on enclosed inquiry slip

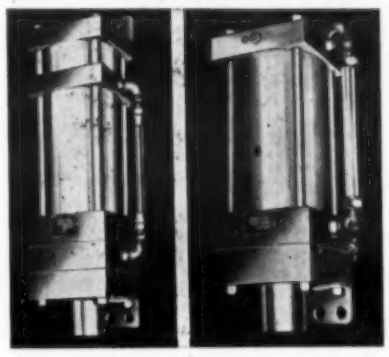
COPPER-BRAZED CAMS
made of stamped steel laminations



Costs can be reduced, even on relatively small lots, by using these cams made of stamped steel laminations stacked together and copper-brazed into single unit. Such cams are approximately equal in strength to those made from solid steel, have high degree of accuracy and can be heat treated by conventional methods. Made by **Technical Metal Processing Inc.,** 5496 Lake Court, Cleveland 14, O.

For more details circle NED-3335 on enclosed inquiry slip

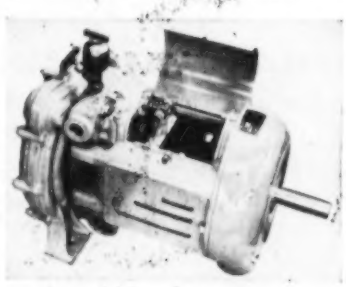
FLUID PRESSURE BOOSTERS
develop pressures up to 10,000 psi



Capable of developing rated working pressure from ordinary plant air or hydraulic input pressure, these booster units are recommended for supplying fluid power for driving working cylinders in clamping, punching, shearing, crimping, riveting and welding operations. Operating speeds range from 30 to 450 strokes per minute and although input pressure can be either air or hydraulic, output is always hydraulic. Models include B4 Air Miser dual pressure air or oil operated type and B2 single-acting air operated spring return booster shown at left and right in illustration. Made by **Miller Motor Co.,** 4031 N. Kedzie Ave., Chicago 18, Ill.

For more details circle NED-3336 on enclosed inquiry slip

SMALL STEAM TURBINE
delivers 5 hp at 2000 to 3600 rpm



Suitable for conditions requiring smooth quiet performance and for applications in explosive atmospheres, model TE-5 Little Giant steam turbine can be used for powering shale shakers, pumps, fans, blowers and compressors. Turbine measures 26 x 16 x 16 in. and can be mounted vertically or horizontally as close coupled unit. Features include grease-sealed bearings, governor valve and control mechanism to provide close speed regulation without hunting, enclosed weatherproof construction and overspeed valve to prevent damage should governor fail. Larger machine of same design, model TE-15, is rated 15 hp at 3600 rpm. Made by **Moon Mfg. Co.,** Dept. 1A, 128 N. Jefferson St., Chicago 6, Ill.

For more details circle NED-3337 on enclosed inquiry slip

NEW! DIFFERENT!

TWO NEW VALVES FOR
Effortless
CONTROL OF AIR CYLINDERS!

TYPE NH (above)—A new hand-operated, four-way, directional air control valve. Sizes ½" and ¾". ⅜" lever motion.

TYPE NF (right)—A new foot-operated, four way, directional air control valve. Sizes ½" and ¾". With or without pedal guard.

HERE is the newest thing in air valves for operating single or double acting air cylinders! Built for *hand or foot* operation, these instant-acting valves provide fast, effortless control comparable to an electric valve—*at minimum cost.*

DISC TYPE; SELF-LAPPING—Metal-to-metal seat. Air tight. Packless.

PILOT CONTROLLED; PISTON OPERATED—Only light touch required; air does the work—shifts the main valve.

PRECISION ENGINEERED—Simple, compact, self-contained; rugged! Try one today. *Ask for bulletins.*

HANNIFIN Corporation
1127 S. Kilbourn Ave. • Chicago 24, Illinois

For more details circle NED-3338 on enclosed inquiry slip

WRITE TODAY!

DICO'S 1950 CATALOG NOW READY!

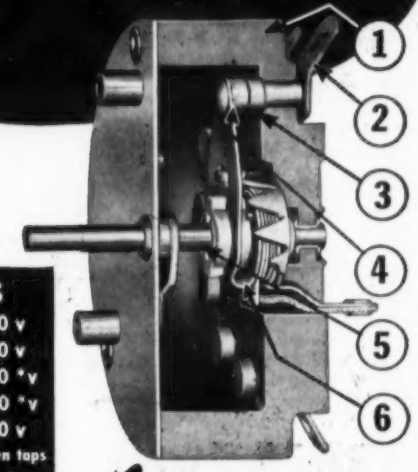
A UNIQUE CATALOG SIMPLIFYING YOUR WHEEL ENGINEERING PROBLEMS.

A MODERN LINE OF INDUSTRIAL WHEELS 6"-18" RUBBER DIAMETER

DICO CORPORATION
406 S.W. 16TH ST., DES MOINES 5, IOWA

For more details circle NED-3339 on enclosed inquiry slip

Here's Why
OHMITE
TAP SWITCHES...



5 SIZES
10 amp—150 v
15 amp—150 v
25 amp—300 *v
50 amp—300 *v
100 amp—300 v
*150 volts between taps

...GIVE Years OF
UNFAILING SERVICE!

1. CERAMIC CONSTRUCTION provides perfect insulation, unaffected by arcing. Contacts and mechanism are entirely enclosed and protected (except for Model 111).
2. EXTREMELY COMPACT, yet have many high-current taps, perfectly insulated. Terminals are convenient for wiring. Back-of-panel mounting.
3. SILVER-TO-SILVER CONTACTS, for high electrical conductivity. Have low surface resistance, and *eliminate* contact maintenance.
4. SELF-CLEANING ROTOR CONTACT. Slightly rounded, assuring perfect seating and producing slight rubbing motion with every operation.
5. "DEAD" SWITCH SHAFT. Completely insulated from the load by a high strength driving hub which will withstand a 2000 volt test.
6. "SLOW-BREAK" MECHANISM, incorporating a positive cam-and-roller. Provides "slow-break, quick-make" action, particularly suited to alternating current. Minimizes sparking, extends contact life.

OHMITE MANUFACTURING CO.
4813 Flournoy St., Chicago 44, Ill.
WRITE on Company Letterhead for Catalog and Engineering Manual No. 40.

Be Right with
OHMITE®
RHEOSTATS • RESISTORS • TAP SWITCHES

For more details circle NED-3340 on enclosed inquiry slip

Two machines ROUTER & SHAPER for the price of one

One motor unit does two jobs . . . routing and shaping . . . on this Stanley-Carter OR85A-1 machine. Motor attaches to over-arm for routing operations easily and quickly. Just as easily detached and fastened into tilting motor holder under the table for a wide variety of shaping operations. Tilting feature gives angles backward as much as 45° and forward up to 20° to increase the number of cuts you can make with one shaper cutter. Universal motor, full 1 h.p., operating at 18,000 r.p.m. for smooth cuts. Direct drive, no belts, gears, idlers or jack shafts. Over-arm fully adjustable. Roller chain for foot treadle control. Various gauges, templets, guides and other accessories available. See your dealer or write Stanley Electric Tools, 563 Myrtle Street, New Britain, Connecticut.

STANLEY
Reg. U.S. Pat. Off.

Hardware, Tools, Electric Tools, Steel Strapping, Steel

▲ For more details circle NED-3342 on enclosed inquiry slip ▲

ONE OF THE LINE of dependable GUARDIAN CONTROLS

FOR *Easy Sailing* ALONG YOUR ASSEMBLIES . . .

● Try the Guardian Series 335 D.C. Relay, one of hundreds of basic Guardian types. A general purpose relay with a wide range of applications, the Series 335 is built to the rigorous standard of aviation relays. The Series 335 D.C., like most Guardian Relays, is now available Hermetically Sealed.

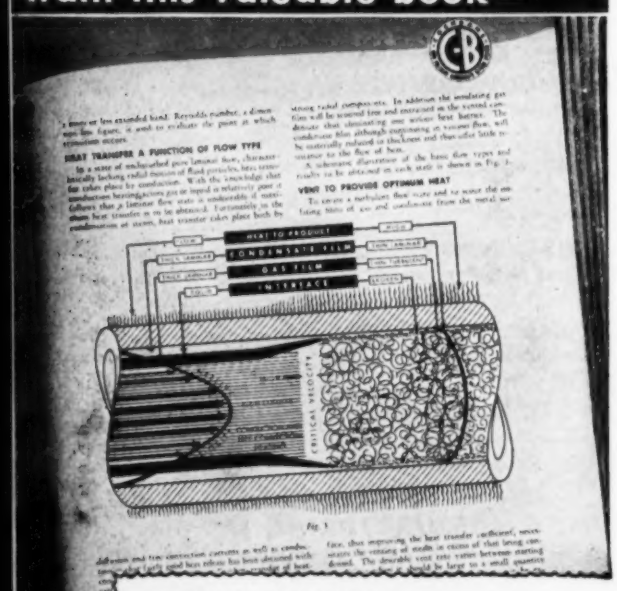
Write for your copy of the new Guardian Catalog 5-H featuring Hermetically Sealed Relays.

Series 335 D.C. Relay

GUARDIAN ELECTRIC
1626-F W. WALNUT STREET CHICAGO 12, ILLINOIS
A COMPLETE LINE OF RELAYS SERVING AMERICAN INDUSTRY

▲ For more details circle NED-3343 on enclosed inquiry slip ▲

If you use process steam you'll want this valuable book —



COCHRANE CORPORATION
3143 N. 17th St., Philadelphia 32, Pa.
In Canada: Canadian General Electric Co., Ltd., Toronto.
Please send me a copy of your Publication No. 3250 on Cochrane C-B System of Condensate Return
Name .....
Firm .....
Address .....
City ..... Zone ..... State .....

▲ For more details circle NED-3344 on enclosed inquiry slip ▲

HEAVY-DUTY MOUNTING controls vibration, noise and thrust

Heavy-duty construction of type F Vibro Isolator vibration dampener makes it especially suitable for equipment where service conditions are severe such as in marine and mobile applications. It can be used to mount pumps, compressors, fans, engine-generator sets and similar equipment. Durable steel springs provide high isolation efficiency, and malleable cast housings are sealed by cylindrical cork ring which snubs horizontal thrust and prevents metal-to-metal contact. Vertical thrust control and sound insulation are also afforded by unit which is available in several capacities for loads between 10 and 500 lb per isolator. Made by **Korfund Co.**, 48-35-P 32nd Place, Long Island City 1, N. Y.

▲ For more details circle NED-3345 on enclosed inquiry slip ▲

TEST SIEVE SHAKER speeds laboratory screen analysis

Designed to provide permanent record of particle size produced by reduction and screening equipment, vibrating test sieve shaker is small portable unit and operates from 110-v 60-cycle power outlets. Vibrating action at 3600 cycles per minute is produced by electromagnet drive energized by rectified half-wave alternating current. Amplitude of vibration is regulated by rheostat conveniently located in front of base cabinet, and reset timer assures accurately timed test periods. Shaker is mounted on three adjustable feet that permit perfect leveling to spirit level on base rim. Six 8-in. diameter sieves can be installed or removed easily. Made by **Syntron Co.**, 405 Lexington Ave., Homer City, Pa.

▲ For more details circle NED-3346 on enclosed inquiry slip ▲

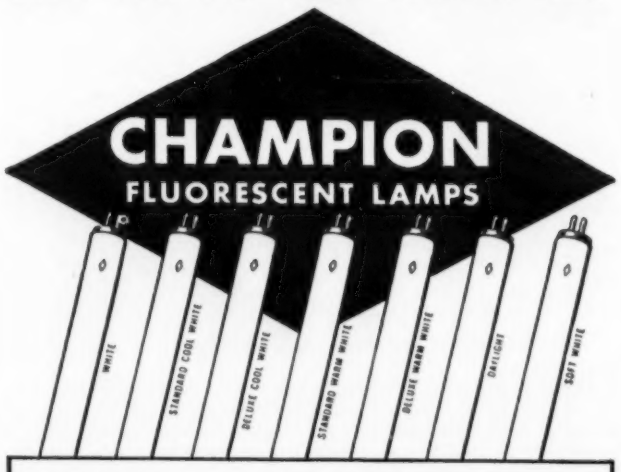
NONFLAMMABLE FINISH REMOVER safely removes all types of finish

Natural and synthetic, air-dried and baked finishes are removed quickly from horizontal, vertical or overhead surfaces by 5 F 5 nonflammable remover. It will not injure fabric, canvas or common basic metals or raise grain of fine woodwork. It is moderately viscous liquid which spreads easily and uniformly, stays wet and clings to vertical surfaces. Containing no benzol, methanol, caustic or acid, it can be used safely indoors or out and in areas restricted to use of combustible materials. Made by **Sterling Paint & Varnish Co.**, 150 Commercial St., Malden 48, Mass.

▲ For more details circle NED-3347 on enclosed inquiry slip ▲

WHITE? WHAT COLOR?

YOU GET EXACTLY WHAT YOU NEED WHEN YOU ASK YOUR SUPPLIER FOR



All white colors are not the same—in fluorescent—but, whichever white you need is available from your Champion Lamp distributor.

He has the complete range of Champion Lamps from which to offer you the best for your purpose—and he has back of him a Champion trained lighting expert, ready to help you get the very best lighting, lamp performance and lamp economy.

Remember, CHAMPION's are the finest quality, longest lasting (all regular pre-heat Champion Fluorescents have a guaranteed rated life of 7500 hours) that we know how to make after fifty years on the job of producing lamps for industry.

CHAMPION LAMP WORKS
Lynn, Massachusetts
A DIVISION OF CONSOLIDATED ELECTRIC LAMP CO.

▲ For more details circle NED-3348 on enclosed inquiry slip ▲

PERFECTED TAPER

for **Quicker Assembly!**
for **Easier Breakaway!**
yet **Maximum Clamping Action!**

All the tried and proved advantages of taper-bushed construction plus PERFECTED TAPER that provides *quicker assembly, easier breakaway, yet maximum clamping action. Perfected taper* of the one-piece bushing also results in more accurate alignment.

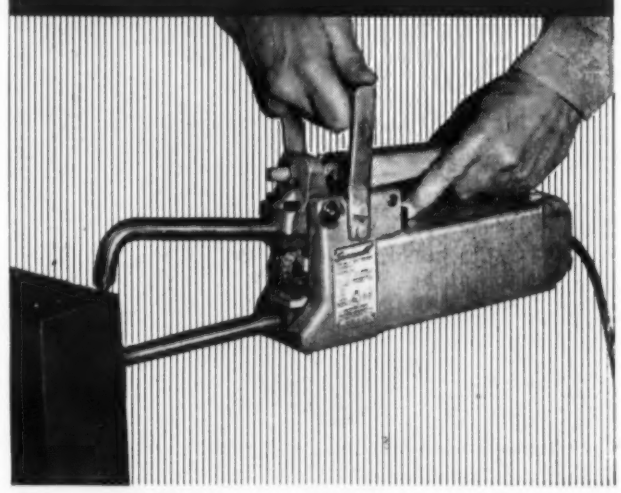
American Taper-Bushed Wedgbelt Sheaves are dynamically balanced for quiet, vibration-free performance. Accurately-machined grooves mean maximum pulling power and long belt life.

For more information on how to simplify your sheave installation, removal, and performance, drop us a line, now.

The American Pulley Company
4296 WISSAHICKON AVE., PHILADELPHIA 29, PA.

▲ For more details circle NED-3349 on enclosed inquiry slip ▲

new, portable SPOT WELDER



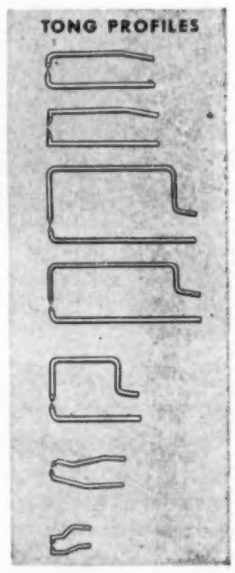
Surewelds' new lock-tight lever action makes tight, perfect spot welds with amazing ease

Just squeeze this handy, light-weight new Sureweld Spot Welder, and the tongs close tight *and stay tight* on the work until the weld is made, thanks to the automatically locking toggle action of the improved lever. Result: good tight welds every time—even on material where fit-up is poor—without muscular strain or fatigue.

Welds stainless and mild steels up to ⅛-in. combined thickness, and galvanized up to two pieces of 20-gauge. Interchangeable tongs provide easy means for welding all hard-to-get-at places. Convenient handle permits support of welder with one hand, while operating lever and switch with the other hand. Weighs only 25 lbs.

Will not overheat. Available for 110 or 220 volt, A-C, single phase. Write today for complete description of this most versatile, most easily operated, portable spot welder. Price, less tongs, $98.00.

Write for Illustrated Bulletin



NATIONAL CYLINDER GAS COMPANY
Pioneers in Electric Welding since 1920
846 North Michigan Avenue • Chicago 11, Illinois

NCG
EVERYTHING FOR WELDING

Copr. 1950, National Cylinder Gas Co.

▲ For more details circle NED-3350 on enclosed inquiry slip ▲

TRACING CLOTH THAT DEFIES TIME

● The renown of Imperial as the finest in Tracing Cloth goes back well over half a century. Draftsmen all over the world prefer it for the uniformity of its high transparency and ink-taking surface and the superb quality of its cloth foundation.

Imperial takes erasures readily, without damage. It gives sharp contrasting prints of even the finest lines. Drawings made on Imperial over fifty years ago are still as good as ever, neither brittle nor opaque.

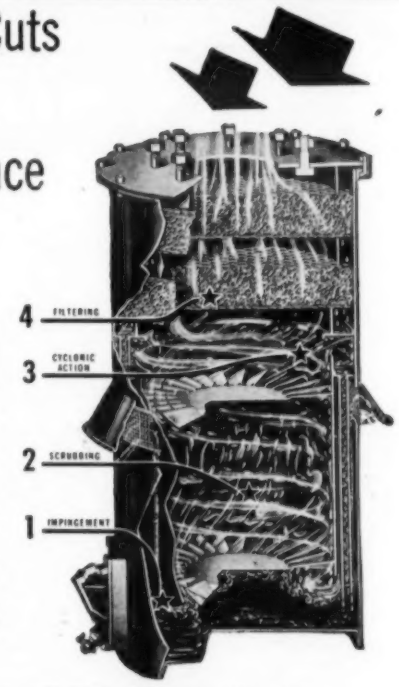
If you like a duller surface, for clear, hard pencil lines, try Imperial Pencil Tracing Cloth. It is good for ink as well.

IMPERIAL TRACING CLOTH

SOLD BY LEADING STATIONERY AND DRAWING MATERIAL DEALERS EVERYWHERE

▲ For more details circle **NED-3351** on enclosed inquiry slip ▲

Clean Air Cuts Engine Maintenance Costs



● Dust damage, resulting in costly engine shutdowns and repairs, can be eliminated with the installation of Cycoil Oil Bath Air Cleaners. This heavy-duty unit provides 4-way cleaning — impingement, scrubbing, cyclonic action and filtering — to insure approximately 100% clean air under the most severe dust conditions.

Cycoil's positive protection costs little compared to the investment it is guarding. Write for copy of Bulletin 130-D.

AMERICAN AIR FILTER COMPANY, INC.
391 CENTRAL AVE., LOUISVILLE 8, KY.
In Canada: Darling Bros., Ltd., Montreal, P. Q.

AAF **Cycoil** OIL BATH AIR CLEANER AND INTAKE SILENCER

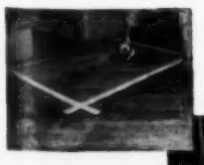
▲ For more details circle **NED-3352** on enclosed inquiry slip ▲

ferrox* A NON-SLIP, SURE GRIP ABRASIVE FLOOR COVERING

FOR SAFE FOOTING
UNDER WET, DRY OR OILY CONDITIONS

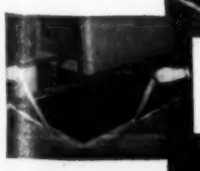
anyone can apply **ferrox***

...on any floor or walking surface. First, clean floor surface until free from dirt, grease, etc. Paint does not need to be removed if it has a good bond.



For Small Areas, Mask Off—With steel trowel, apply one thin coat.

Apply Second Filling Coat—After drying first coat 1-3 hours.



Remove Masking Tape — Allow 8-10 hours drying. Then ready for use — underfoot safety assured.

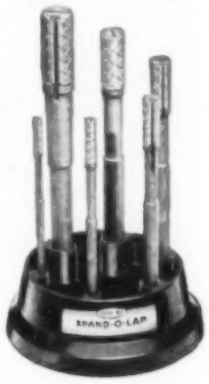
Safe Floors at Low Cost
1 gal. can — $7.50 per gal.
5 gal. can — $7.25 per gal.
One gal. covers 40 sq. ft.
Colors: red, gray, blue, black, green.

For free literature illustrating uses and application data, write or phone Bob Eastty.

AMERICAN ABRASIVE METALS CO.
469 COIT STREET • IRVINGTON, N. J. • Phone: ESsex 3-7060
*Reg. U. S. Pat. Off.

▲ For more details circle **NED-3353** on enclosed inquiry slip ▲

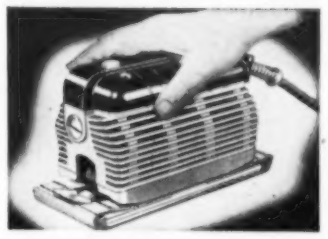
EXPANSIVE LAPPING TOOL is self-aligning and self-adjusting



Consisting of one steel arbor, two serrated copper sleeves and one S-shaped pressure spring, Xpand-O-Lap requires no manual adjustment and provides constant self-expanding pressure between lap sleeves and work. Diagonal grooves in sleeves serve as channels for lapping compound to promote uniform distribution and to prevent galling or seizing. Sleeves and pressure spring are replaceable. Tool can be obtained singly or as complete set with stand including 1/8, 3/16, 1/4, 5/16, 3/8 and 1/2-in. sizes. Two extra sets of sleeves and one extra spring are included for each lap. Made by **Ideal Industries, Inc.,** 1032 Park Ave., Sycamore, Ill.

▲ For more details circle **NED-3354** on enclosed inquiry slip ▲

ELECTRIC SANDER & POLISHER delivers 14,400 strokes per minute



Straight-line reciprocal action utilized by model 2000 sander and polisher prevents burning, scratching or marring of sanded surfaces. Unit has only two moving parts, oilless bearings, weight of only 5 lb, 21 in. of sanding surface using No. ½ or finer abrasives, and cam type paper holder which permits rapid changing. It is furnished complete with 8-ft Underwriters' Laboratories approved cord, 25 sheets of abrasive paper, sheepskin polishing pad and metal storage cabinet which holds tool and its accessories. Price is $24.50. Made by **Dremel Mfg. Co.,** 2400 Eighteenth St., Racine, Wis.

▲ For more details circle **NED-3355** on enclosed inquiry slip ▲

PRESSURE GENERATING UNIT is air-operated hydraulic type

Capable of developing up to 23,000 psi, this hydraulic pressure testing Intensifier provides simple setup for static pressure testing of boilers, piping systems and compressor cylinders. Machine weighs only 80 lb and is mounted on two-wheel rubber tired undercarriage for easy portability. Operation of unit requires connecting it to compressed air line where 90 psi pressure allows machine to develop its rated capacity. Variable static pressures are preset by regulator valve that is equipped with dial type air pressure gage, and discharge pressures are indicated on direct reading dial gage. Made by **Cooper-Bessemer Corp.,** 3500 Sandusky St., Mt. Vernon, O.

▲ For more details circle **NED-3356** on enclosed inquiry slip ▲

MULTIPLE DRILLING with a MULTI-DRILL
INCREASES CAPACITY
UP TO 800%

ADJUSTABLE TO ANY HOLE PATTERN FITS ANY DRILL PRESS

If your production requires drilling from 2 to 8 holes in a work piece, a MULTI-DRILL will cut costs and speed output up to 800%. The MULTI-DRILL is universally adjustable to any hole pattern—is compactly built to permit easy, unhampered operation with drill jigs or other special fixtures. Ruggedly built to take the wear and tear of high production work, the MULTI-DRILL will handle your long and short run multiple drilling jobs with ease and economy. The MULTI-DRILL will drill on hole centers as close as ⅜"—handle drill sizes up to ⅜" in steel. Special adaptations available.

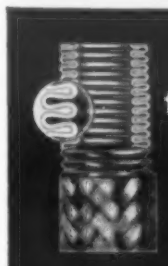
There is a Commander MULTI-DRILL Distributor in your area. Write for his name, literature and complete details.

COMMANDER MFG. CO.
4220 WEST KINZIE ST. CHICAGO 24, ILL.

Product of *Commander* — Builder of the *Commander Tapper*

▲ For more details circle **NED-3357** on enclosed inquiry slip ▲

CMH REX-WELD
corrugated flexible metal hose



the answer to leakproof conveyance of high pressure, high temperature liquids and gases

REX-WELD is manufactured in both bronze and steel with helical or annular corrugations, braided or unbraided. It is particularly suited for installations where vibration is a problem or where hose is subjected to prolonged flexing or bending.

The range of applications for REX-WELD is virtually unlimited. It is capable of handling pressures to 6000 psi. and temperatures to 1000° F. Leakproof, even for searching liquids and gases.

Write for complete data

CMH CHICAGO METAL HOSE CORPORATION
MAYWOOD, ILLINOIS
Plants at Maywood, Elgin and Rock Falls, Illinois
In Canada: Canadian Metal Hose Company, Limited, Brampton, Ontario.

▲ For more details circle **NED-3358** on enclosed inquiry slip ▲

Here's why **TRU-LAY PUSH-PULL** is a valuable aid in machine design

TRU-LAY Push-Pull is precision-made. Therefore it . . .

. . . is positive in action as a steel rod, yet flexible as wire rope

. . . transmits action over long or short lengths, with few or many bends

. . . will operate while flexing, with practically no lost motion

. . . is made in capacities up to 1000 pounds input

. . . is designed for long life—a machine part—not a flimsy gadget

MAIL THE COUPON BELOW

(to our Detroit Office) for bulletin of information about TRU-LAY Push-Pull.

6-235 General Motors Bldg., Detroit 2
•
1119 Santa Fe Avenue, Los Angeles 21
•
Bridgeport, Conn.

ACCO
AUTOMOTIVE AND AIRCRAFT DIVISION
AMERICAN CHAIN & CABLE

Please send me copy of descriptive bulletin DH-87-D-1.

Name_____
Company Name_____
Address_____
City_____ Zone____ State_____

▲ For more details circle **NED-3359** on enclosed inquiry slip ▲

BOLTS • NUTS
RIVETS and SCREWS...

...have greater holding power!

• Accuracy of product finish...uniformity of product quality have maintained Clark Leadership for 97 years.

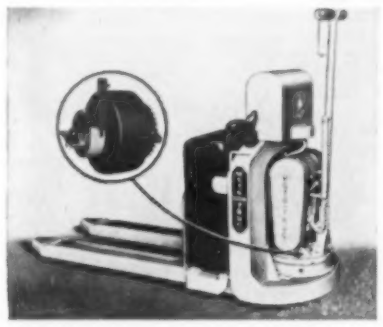
For Greater Security...Fasten Fast with CLARK Fasteners.

CLARK BROS BOLT CO.
MILLDALE, CONN.

6N

▲ For more details circle **NED-3360** on enclosed inquiry slip ▲

PALLET TRUCK incorporates automotive type brake



Available in 12 and 18-v models, Moto-Truc short lightweight pallet truck has brake mounted on side of drive wheel as integral part. Two internal-expanding, self-synchronizing, vulcanize-lined brake shoes inside cast Meehanite drum provide smooth positive brake action under all load and floor conditions. Since truck is only 23¾ in. longer than load, it can operate in small spaces. Roller type handle controls two speeds forward and two speeds reverse. Made by **Moto-Truc Co.**, 1951 E. 59th St., Cleveland 3, O.

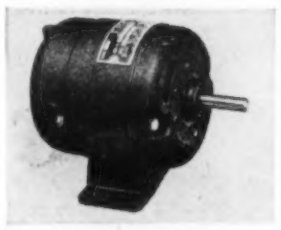
▲ For more details circle **NED-3362** on enclosed inquiry slip ▲

MULTIPLE FILLING MACHINE automatically packages dry products

Multiple-unit Whiz-Packer filling machine is usable for packaging more than one dry product in definite levels in single packages. It is also adaptable for filling more than one dry product in container when the products cannot be premixed. Package is filled through one filler spout which is made to fit container requirements. Weights are individually controlled, so different weights can be filled at each filling head. Any one or combination of units can be run separately and positioned to suit special needs. Agitation can be supplied in any or all filling heads to handle specific products. Only one motor is necessary, and variable speed transmission is supplied. Entire machine can be dismantled easily for cleaning. Made by **Frazier & Son**, 336 Cortlandt St., Belleville, N. J.

▲ For more details circle **NED-3363** on enclosed inquiry slip ▲

BRUSH-TYPE UNIVERSAL MOTOR rated 1/25-hp continuous duty



Capable of producing 1/20-hp on intermittent duty cycle, model 1100 fractional horsepower motor employs diecast case and dynamically balanced rotor with single extension shaft. It can be equipped with any EMC gear reduction unit with large number of ratios available for low output speeds. It can be supplied also with electric governor for constant speed applications. Made by **Electric Motor Corp.**, Dept. NED, 1204 State St., Racine, Wis.

▲ For more details circle **NED-3364** on enclosed inquiry slip ▲

NO SEAT!
TO SCORE...WEAR...
CLOG...AND LEAK

The Yarway Seatless Blow-Off Valves eliminate the commonest source of trouble and expense with ordinary blow-off valve operations.

The famous seatless principle first introduced nearly 40 years ago, has been constantly improved and adapted to meet modern service requirements.

There is a Yarway Blow-Off Valve for every pressure.

SEND FOR FREE BLOW-OFF VALVE BOOKLET. PLEASE STATE YOUR BOILER PRESSURES.

Cross section of Type "B" Seatless Angle Valve, Flanged.

YARNALL-WARING COMPANY
131 Mermaid Ave., Phila.18, Pa.

YARWAY BLOW-OFF VALVES

▲ For more details circle **NED-3366** on enclosed inquiry slip ▲

NOW! — your favorite marking tool
IN 2 SIZES

Industry Adopts
COLOR MARKING

Our records show that the nation's biggest manufacturers are using Flo-master Semi-Opaque Inks for *parts and assembly identification.* A wide range of colors is available for marking on ANY surface—metals, plastics, wood, etc. Flo-master Inks are waterproof, non-smudging and fast-drying.

For fine marking use the POCKET SIZE Flo-master—for bold marking, the KING size.

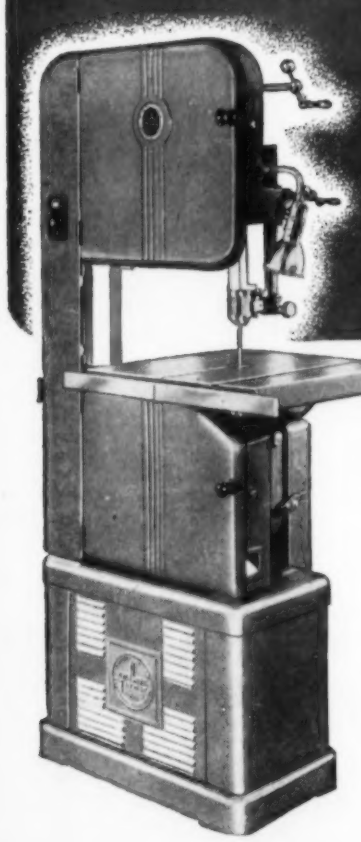
Ask your supplier or, if you have an unusual problem, write to Cushman & Denison Mfg. Co., 135 W. 23 St., N. Y. 11, N. Y.

Cap of "King Size" may be screwed to bench to serve as stand.

Flo-master
FOUNTNBRUSH

▲ For more details circle **NED-3367** on enclosed inquiry slip ▲

NEW! WALKER-TURNER 16" BAND SAW



for Metal, Plastic and Woodworking

REVOLUTIONARY IN DESIGN AND CONSTRUCTION

A product of Walker-Turner *designing* — means it's low in initial cost . . . high in operating efficiency!

walker-turner DIVISION

LOOK AT THE SPECIFICATIONS . . . COMPARE

Capacity: 16" between blade and frame—8" under guide
Guides: Upper and lower, leaf type
Frame: Heavy cast-iron, one-piece, for extra strength and rigidity
Bearings: 4 heavy duty precision ball bearings
Wheels: Cast aluminum, carefully balanced, rubber faced
Table: Cast iron, 18" x 17", carefully machined
Guards: Cast aluminum, provide full protection

Single speed models for wood and plastic cutting. 8 blade speeds—with standard motor 193-5692 feet per minute; with slow speed motor 126-3700 feet per minute.

SOLD ONLY THROUGH AUTHORIZED DEALERS

Walker-Turner DIVISION
KEARNEY & TRECKER CORP. PLAINFIELD, N.J., U.S.A.

KEARNEY & TRECKER MILWAUKEE
WALKER-TURNER DIVISION
PLAINFIELD, NEW JERSEY

SEE YOUR LOCAL DEALER for complete technical data on this and other metal and woodworking machines in the complete Walker-Turner Line, or mail coupon for catalog.

WALKER-TURNER DIVISION
Kearney & Trecker Corp. Dept. N3, Plainfield, N. J.
Please send me a copy of the complete Walker-Turner Catalog.
Name .....
Firm .....
Address .....
City ..... Zone ..... State .....

▲ For more details circle **NED-3361** on enclosed inquiry slip ▲

NEW LAWLOR MODEL 12-W HAS ADJUSTABLE HANDLE

With this new streamlined Lawlor, operators can now scrub, wax-polish floors under desks, machines, lockers, etc. Handle can be raised or lowered to any angle within an 80 degree arc. Strongly made in the Lawlor tradition for long, satisfying service.

Write for circular about the 12-W and other Lawlor Equipment.

The Model 12-W is only one of the complete Lawlor line of quality floor maintenance units to take care of any kind and size floor.

Visit our Exhibit—Booth 100
N.S.S.A. Exposition, May 7-10
Stevens Hotel, Chicago

S. C. LAWLOR CO. Quality Floor Equipment for 50 Years
131 N. Aberdeen St., Chicago 7, Ill.

▲ For more details circle **NED-3365** on enclosed inquiry slip ▲

SPRING IS SURE HERE!
IN GARRETT SPRING WASHERS

CONTROLLED TENSION
Garrett Spring Washers are made to hold right . . . stay tight. Exclusive Controlled Tension built into each washer to provide exact holding power for longer time.

PRECISION SIZES
Each washer is made to meet exacting size specifications—I. D., O. D., height and material thickness is scientifically controlled to Nth degree accuracy.

RIGIDLY INSPECTED
Garrett's laboratories and quality control tests assure highest quality in finished products. Size, shape, and finish are all carefully checked to meet rigid specifications.

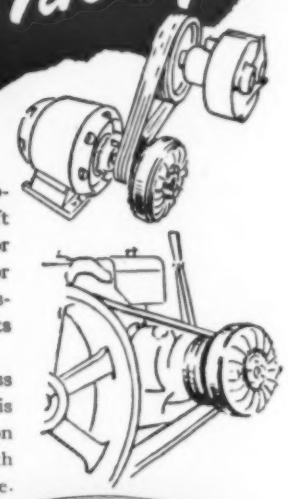
100 VARIETIES
Bellville, bevel, wave and many other types are all included in the more than 100 varieties of types and sizes available in Garrett's standard line. We welcome your request. Send in your specifications. We can probably save you plenty in die costs. Write for our booklet. Let us prove it.

GARRETT'S MANUFACTURE A COMPLETE LINE OF LOCK WASHERS . . . FLAT WASHERS . . . STAMPINGS . . . HOSE CLAMPS . . . SPRINGS
GEORGE K. GARRETT CO., Inc.
PHILADELPHIA 34, PA.

GARRETT OF PHILADELPHIA

▲ For more details circle **NED-3368** on enclosed inquiry slip ▲

New Hydraulic Power Package



● Attach a Twin Disc Hydro-Sheave Drive to the output shaft of your ¾ to 25 hp electric motor or internal combustion engine for smooth hydraulic power transmission. It will eliminate jerky starts and engine stalling.

A complete package unit, less sheave, the Hydro-Sheave Drive is designed for use with Worthington QD Sheaves, but can be used with a chain sprocket of the plate type. Write for Bulletin 145-A. TWIN DISC CLUTCH Co., Racine, Wisconsin.

TWIN DISC HYDRO-SHEAVE DRIVES

TWIN DISC CLUTCH COMPANY • Hydraulic Division • Rockford, Illinois

For more details circle NED-3369 on enclosed inquiry slip

Write for Catalog OF USES and SPECIFICATIONS

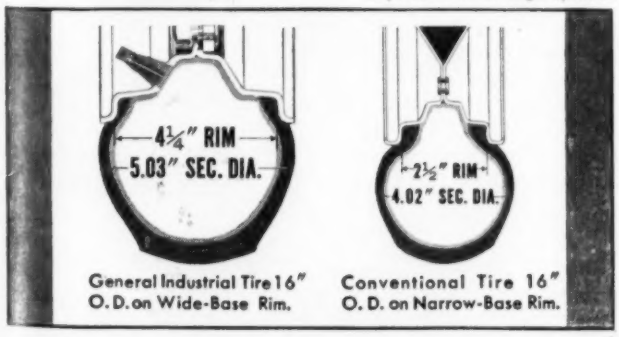
GENERAL Industrial Pneumatics

ADD THESE 6 SELLING POINTS TO YOUR PRODUCT

SAVE
• TIME • LABOR
• FLOORS

REDUCE
• BREAKAGE
• MAINTENANCE
• COSTS

Available in assemblies of Tires, Tubes and Wheels. Size O. D. 8" to 23"—200 to 2000 lbs. cap. for low or high speeds.



General Industrial Tire 16" O. D. on Wide-Base Rim. Conventional Tire 16" O. D. on Narrow-Base Rim.

MORE
• AIR VOLUME
• STABILITY
• LOAD CAPACITY
• MILEAGE

THE GENERAL TIRE

SEND FOR CATALOG... DEPT. 4

THE GENERAL TIRE & RUBBER CO. AKRON, OHIO

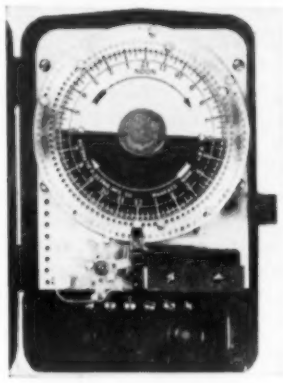
For more details circle NED-3370 on enclosed inquiry slip

AUTOMATIC TAPE APPLIER
dispenses pressure sensitive tape

Operated easily by one hand, Tapex automatic tape applier feeds tape quickly and with flick of finger cuts it off at any desired length. Device is made of unbreakable plastic in two sizes, finished in wine, gray, green and brown and can dispense rolls of imprinted or plain tapes up to 1296 in. long. It is recommended for masking artwork, tagging instructions, mounting posters and constructing displays. Unit is priced at $2.45 for handling tape up to ½-in. and $2.75 for tape up to ¾-in. wide. Made by **Tapematic Corp.**, 215 Astor St., Newark 5, N. J.

For more details circle NED-3371 on enclosed inquiry slip

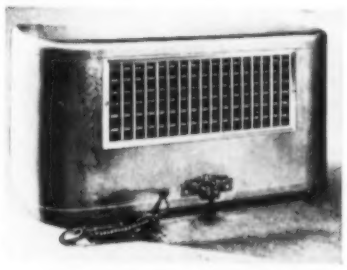
CYCLE TIME SWITCH
offers up to 48 on-off operations



This Cycle-Master time switch is set easily by inserting screw pins in programming dial. Intervals can be 15 minutes or more apart when used on 24-hour cycle, 7½ minutes on 12-hour cycle, and as little as 37½ seconds on 1-hour cycle. Two series are available in models with or without Sunday and holiday cutouts; single-pole single-throw through double-pole double-throw; and with four, five or eight terminals. Series 70 switch has capacity of 10 amp on 110-v 60-cycle ac circuit, and series 80 has 20-amp capacity. Encased in pressed steel cabinet, device employs pure silver contacts. Eight pins are supplied with each unit. Made by **Automatic Electric Mfg. Co.**, 720 Front St., Mankato, Minn.

For more details circle NED-3372 on enclosed inquiry slip

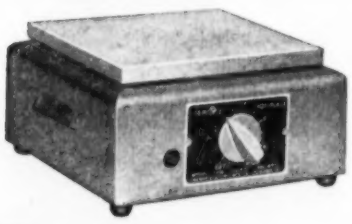
PORTABLE AIR CIRCULATOR
filters dust, dirt and pollen



Measuring 11 x 11 x 22 in., Filter Breez fan uses standard 10 x 20 x 1-in. replaceable filters and twin blowers to provide purified air for cooling offices and workrooms. Unit weighs less than 30 lb and can be used in any double-hung window by lowering sash and blocking off open area, or placed on either end in casement window. Fans are powered by 1/20-hp 120-v 60-cycle single-phase motor which is controlled by variable speed switch for adjusting desired air flow. Unit is finished in iridescent bronze brown and is supplied with 6-ft. plug-in cord. Made by **Lau Blower Co.**, Station B, P. O. Box 98, Dayton 7, O.

For more details circle NED-3373 on enclosed inquiry slip

NEW "UTILITY SIZE" HOT PLATE



TEMCO MODEL 1900 . . . for boiling, evaporations and general laboratory work

Ideal unit for a wide variety of routine and critical laboratory uses because of its wide temperature range, exceptionally close control—less than 5° F. variation. Features completely variable control over full temperature range from 100° to 700° F. Compact, convenient . . . plugs into any 110 V. 50/60 Cy. circuit. Plate size, 6" square. Cast aluminum top heats rapidly to all edges. Neon pilot light. Well insulated and ventilated. Price, $19.75. Write for descriptive literature and nearest dealer's name.

THERMO ELECTRIC MANUFACTURING CO.
484 West Locust St., Dubuque, Iowa.

For more details circle NED-3374 on enclosed inquiry slip

YOU MAY SAY— "No Down Time on Our Machines"

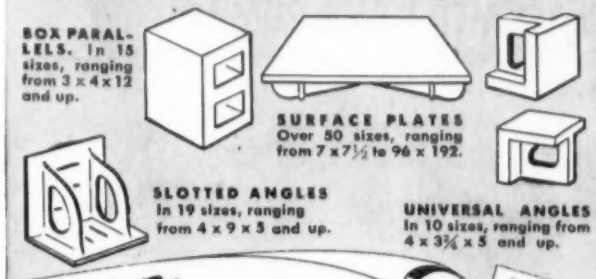
BUT—ARE YOU SURE?

You can't be sure by just walking around the plant and "keeping an eye on them." Too many little unnoticed stops and delays creep in that way. And they can add up to *quite a total!* No, you can be *certain* of full machine hours only by installing *Servis Recorders.* Their charts show you ALL down time, even little 10 minute periods—day shift or night shift. Tells you exactly when each machine stood idle—*and how long.* Write for our folder, "*A Busy Plant.*" The Service Recorder Co., 1375 Euclid Ave., Cleveland 15, O.

The Servis Recorder
The "Time Clock" for Machinery

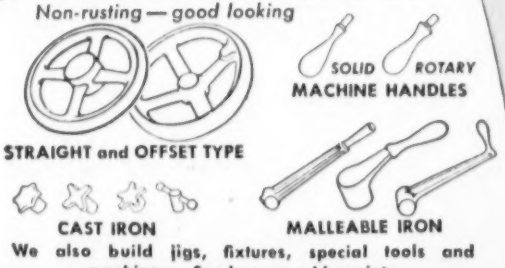
For more details circle NED-3375 on enclosed inquiry slip

Dependable
MEASURING & CHECKING EQUIPMENT



and Now
HAND WHEELS, KNOBS, HANDLES
Cadmium Plated READY TO DELIVER
Non-rusting — good looking

Send for Complete Catalog



We also build jigs, fixtures, special tools and machinery. Send us your blueprints.

MACHINE PRODUCTS CORPORATION
6771 E. McNichols Road • Detroit 12, Mich.

For more details circle NED-3376 on enclosed inquiry slip

New STAINLESS TUBING Data File

Return coupon for your copy . . .

● Complete information on physical properties, special shapes, available sizes, etc. is yours in this Carpenter Stainless Tubing File Folder.

Clip coupon or write a note on your company letterhead for your copy of this useful engineering information.

CLIP COUPON FOR STAINLESS TUBING DATA FILE

THE CARPENTER STEEL COMPANY
Alloy Tube Division • 118 Springfield Road
Union, New Jersey

NAME _____ TITLE _____
(Please Print)
COMPANY _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

For more details circle NED-3377 on enclosed inquiry slip

Write for Bulletin IB-11

Can You Do Better

WITH ROLL-FORMED . . .

OR EXTRUDED METAL SHAPES?

For the lowest possible cost on light metal shapes, see what Werner can do for you. Send for the free bulletin.

Our recommendation will surely be unbiased, for we make *both* types . . . *extruded* shapes in aluminum, magnesium . . . *rolled* shapes in aluminum, stainless steel, brass, zinc, etc.

We custom-make shapes to your order, and do such secondary fabrication as polishing, punching, drilling, slotting. Delivered in strips, coils or cut to exact lengths.

R. D. WERNER CO., INC.
295 Fifth Ave., New York 16, N. Y.
Manufacturers of Metal Extrusions and Rolled Shapes

For more details circle **NED-3378** on enclosed inquiry slip

Easy does it! with

BLACKMER HAND PUMPS

for SAFETY

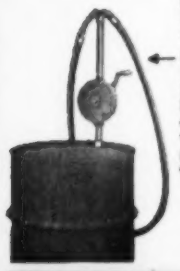
GOOD HOUSEKEEPING & ECONOMY

. . . In any plant where liquids are dispensed.

Promote clean, safe floors, reduce fire hazards and save valuable liquids with these low-cost pumps.

Pump complete with crank, positive shutoff spout, drip pan with overflow back to container, and 1" x 42" long suction pipe for use on drums, barrels or other containers. Ten gallons per minute. Bung is threaded for 1½ and 2-inch openings. Constructions: bronze-fitted, all iron, all bronze.

A permanent base unit pumps fuel or other liquids and oils from underground tanks. Below-ground storage is especially desirable where highly inflammable liquids are handled. The unit includes pump with crank and supporting stand with base, which acts as the suction pipe, and is threaded in the base bottom and side for ¾" connections. A 12" discharge pipe is equipped with hose holder and 8 feet of gasoline-resistant hose with nozzle. Vacuum breaker for fast hose drainage is optional. 10 GPM capacity.



Unit consisting of pump with crank, 1" x 40" suction pipe, straight or taper bung, 1" x 12" discharge pipe with hose holder and vacuum breaker for fast draining of hose, 8' of ¾" lined hose with bronze nozzle. Capacity, 10 gallons per minute. Widely used to transfer gasoline, diesel fuel and oil.

FOR DISPENSING POINTS IN PLANT—WAREHOUSE—STORES

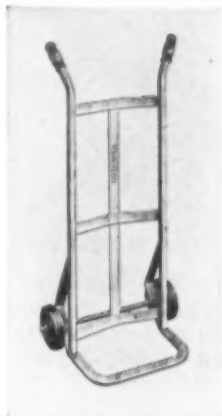
Write for HPS—Hand Pump Bulletin

BLACKMER PUMP COMPANY
GRAND RAPIDS, MICHIGAN

For more details circle **NED-3379** on enclosed inquiry slip

For more details circle **NED-3380** on enclosed inquiry slip

LIGHTWEIGHT HAND TRUCK
available with one or two handles



Because of concave cross straps, Lite-N-Tuff lightweight hand truck is suitable for handling bags, barrels, drums, kegs and paper rolls as well as cases, cartons, boxes and packages. It can be obtained with open or closed nose, weighs 28 lb and is provided with skids to slide up or down steps and curbs. Ball bearing wheels have 6 x 2.00 semipneumatic puncture-proof cushion tires. Because of its size and weight, truck can be carried conveniently in vehicles. Made by **Hamilton Caster & Mfg. Co.,** 1668 Dixie Highway, Hamilton, O.

For more details circle **NED-3381** on enclosed inquiry slip

CARBIDE POWER TOOLS
rotary files, end mills and reamers

Additions to Power Tool line are these precision machine-ground tungsten carbide rotary files and ground-from-solid carbide end mills and reamers. Rotary files are produced to exact shapes to provide true running qualities and long life. When coolant is used during grinding operations, heat check is eliminated. End mills are available in sizes up to ½-in. shank diameter. Reamers have odd number of flutes to oppose crushing load on cutting edges. All lands are highly lapped and radius is ground at front end to eliminate break down of corner. Made by **Charles L. Jarvis Co.,** P. O. Box 290, Middletown, Conn.

For more details circle **NED-3382** on enclosed inquiry slip

PAINT SPRAY GUN
employs controllable nozzle

Featuring four-finger trigger, model GAT-2 spray gun utilizes No. 47 nozzle design to control width of spray pattern from size of silver dollar to swath more than 12 in. wide. Improved trigger design enables operator to use gun for longer periods of time without finger fatigue and also to handle gun with bulky gloves. Gun is served by separate lines carrying compressed air and whatever coating is being applied. It is recommended for high speed production painting in such fields as heavy products finishing, building construction and plant maintenance where its ability to project streams of atomized material in workable pattern to normally inaccessible surfaces up to 6 ft beyond operator's reach promotes finishing speed. Made by **Eclipse Air Brush Co.,** 421 Park Ave., Newark 7, N. J.

For more details circle **NED-3383** on enclosed inquiry slip

proved in dozens of installations . . . *machine capacities* **up 65% to 95%**

STEEL-PARTS

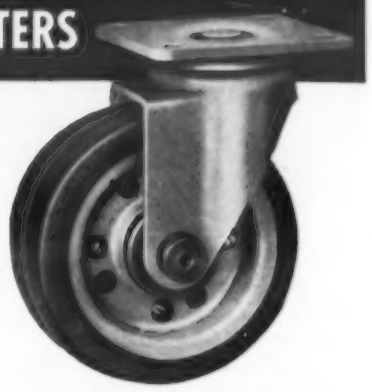
STEEL BELT CONVEYORS...

• Machine capacities skyrocket — unit costs sink — operating space is cut as much as one-half with STEEL-PARTS steel belt conveyors on your job. Easy to install, simple to operate and trouble-free to maintain, STEEL-PARTS offer you a sagless, steel belt conveyor for each *specific* materials handling problem. A STEEL-PARTS engineer stands ready to make specific recommendations concerning your individual materials handling problem. Write now!

STEEL-PARTS MANUFACTURING CO.
4634 West Harrison Street, Chicago, Illinois
DIVISION OF BLACKSTONE MANUFACTURING COMPANY

For more details circle **NED-3384** on enclosed inquiry slip

One of 1458 LOAD-FLOATING WORK-SAVING **Colson CASTERS**



Model No. 3-527-65 swivel fork caster, ideal for use on medium weight industrial equipment.

To meet every need exactly, there are 1458 different standard designs of Colson casters—many of them stocked for immediate shipment. Colson casters are the replacement choice of Industry because they offer big dividends in fast, quiet handling, easy work and reduced floor damage. *WRITE TODAY FOR FREE 68 PAGE CATALOG.*

THE COLSON CORPORATION
ELYRIA, OHIO
CASTERS • LIFT JACK SYSTEMS • INDUSTRIAL TRUCKS

For more details circle **NED-3385** on enclosed inquiry slip

A "MUST" in PRODUCTION SCREWDRIVING!

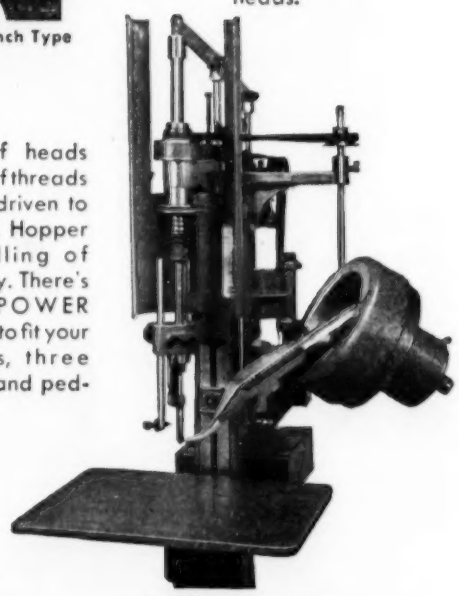
STEPS UP SPEED— CUTS ASSEMBLY COSTS

THE MODERN Machine Method

Model A—Bench Type

Thousands of manufacturers are profiting by the use of DETROIT POWER SCREWDRIVERS . . . They offer time and labor saving advantages too great to be overlooked. They will drive screws as fast as one a second! . . . Machine, wood, brass, self-tapping, sheet metal screws—standard heads, special heads.

No marring of heads . . . no stripping of threads . . . all screws driven to uniform tension. Hopper fed, no handling of screws necessary. There's a DETROIT POWER SCREWDRIVER to fit your requirements, three models, bench and pedestal types.



Model B—Pedestal Type

Ask for Catalog

SEND SAMPLE ASSEMBLY FOR PRODUCTION ESTIMATE.

DETROIT POWER SCREWDRIVER CO.
2819 WEST FORT ST. DETROIT 16, MICH.

For more details circle **NED-3386** on enclosed inquiry slip

HAVE YOU EVER BOUGHT YOUR WIFE A MINK COAT AT RABBIT PRICES?

SAVE UP TO 85% IN WAR SURPLUS

We've gone NUTS!!

Just Purchased 180,000 lbs. of the FINEST PRECISION Made ELASTIC & FIBER LOCK NUTS!! All are NEW!! Here's your chance to "STEAL" Aircraft Quality STOP NUTS at less than the cost of common commercial hex nuts. They're ALL NEW Cad plated Steel and a large quantity are even pre-tapped for easier wrenching. ELASTIC or FIBER LOCK SEAL gives a Positive, Shake-proof, Vibration & Rust Resistant fastener. No lock washer necessary. One Operation does the job. Just run on the nut. Ideal for use in all types of metal fabrication, assembly, construction etc.

ALL NEW! AND LOOK AT THESE PRICES for ELASTIC or FIBRE LOCK STOP NUTS

Prices per 100 in these quantities - Special Discount for larger quantities

	100	1000	10,000	25,000	50,000	100,000	500,000
640	$.49	$.25	$.21	$.19	$.17	$.15	$.13
832,836	.59	.31	.28	.25	.23	.21	.19
1032	.59	.31	.28	.25	.23	.21	.19
1/4-28 FL	.63	.39	.36	.33	.30	.27	.25
1/4-28 PT	.63	.39	.36	.33	.30	.27	.25
5/16-24 PT	.84	.64	.61	.58	.56	.54	.49
3/8-24 PT	.94	.74	.71	.68	.66	.64	.59

Note: FL means Fiber Lock (not pre-tapped.) PT means Pre-tapped, ESSNA Brand.

AIR TOOLS

ARO PISTOL 22.50 AIR DRILL or AIR MOTOR with 1/4" Jacobs chuck.

10,000 in various makes, sizes & types. Cleco, Aro, Ingersoll Rand, Chicago Pneumatic, Buckeye E2, 3X, 2X, OY. $55.00 VALUE Pistol or Gooseneck

NO.181 PISTOL Only $8.95

NEW BEARINGS

These are the Finest, Precision, AIRCRAFT BEARINGS!! We have more than 168 types and sizes in TREMENDOUS QUANTITIES!!! Needle, Roller, Recessed, Rod End, Shielded, Unshielded, Self-aligning, etc. Made by some of the WORLD'S LEADING MANUFACTURERS OF BEARINGS... Yours at a FRACTION of COMMERCIAL PRICES. Write for complete list. Adapt to your use!

PALLEY SPECIALS on HYDRAULIC PUMPS & CYLINDERS

P-1 PESCO PUMP - Positive displacement gear type. Capacity: 1 gal. per minute, at 1500 RPM at 1500 PSI. Operating speed: 3700 RPM intermittent max. 4500 RPM. Rotation: either direction with slight adjustments. $9.49

NEW HYDRAULIC CYLINDER NEW 22.50

Gives 20,000 lb. thrust (push or pull) using 1500 PSI line pressure as obtained from our hyd. pumps. Will produce up to 40,000 lb. thrust with 3,000 PSI. CAN ALSO BE OPERATED ON LOW PRESSURE AIR SYSTEMS. 4" bore, 18" stroke, 30½" length. Ideal for Road-Farm-Shop Machinery.

BENDIX HAND PUMP

Provides instantaneous power to operate Hydraulic Systems. Delivers 3000 to 5000 PSI. Has built-in reservoir and Pressure Relief Valve. Can be adapted to 100's of uses in simple hydraulic systems. NEW $15.95 Used - Good Condition 11.95

P-4 VICKERS ANGLE PUMP

Positive displacement type, angle piston. Displaces .507 cu. in. per revolution. Has capacity of 6 gal. per min. at 3000 RPM at 1500 PSI. Pressure limit is 1500 PSI continuous, 1875 for 15 sec. Operating speed of 3750 RPM, intermittent maximum 4500 RPM. Rotates to the right only. Motor $14.49

Order from this Ad. All sales final. All Prices F.O.B., Glendale. Pay by M.O. or Check. P.O.'s Accptd. from D.&B. firms. ½ deposit with C.O.D's.

PALLEY SUPPLY CO. DEPT. NED-5 6321 SAN FERNANDO RD. GLENDALE 1, CALIF.

NEW 1950 CATALOG 72 pages of Machine Tools (taps, drills, dies reamers, etc.) Hydraulic Cylinders & Valves, Air Tools, Bearings. Write Today for your Copy.

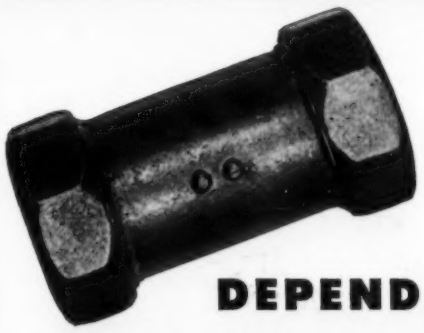
For more details circle NED-3387 on enclosed inquiry slip

Save! MANPOWER • MONEY • ACCIDENTS with a "CANTON" Portable Floor Crane

One man and a CANTON crane can lift and transport loads up to 3 tons. Safety mechanism holds the load at any point. Light weight tubular steel construction. Made in 8 sizes. Ask for bulletin N49.

The HILL ACME Company "CANTON" DIVISION 6404 Breakwater Ave CLEVELAND 2, OHIO

For more details circle NED-3388 on enclosed inquiry slip



DEPENDABLE CONNECTIONS FOR COPPER TUBING

Wherever you use copper tubing, make connections quickly and dependably with Dresser "*Copr-Tube*" Fittings. Resilient gaskets absorb vibration and keep the connection permanently tight.

Connections can be made in a few seconds. No exact tube cutting, no straightening, no flaring, no soldering. Just stab tube ends into fitting and tighten end nuts with a wrench.

Dresser "*Copr-Tube*" Fittings are ideal for tubing connections on all types of equipment, and are widely used on jet pump hookups. "Armored*" gaskets offer further protection against corrosive line contents. Couplings, ells, tees, etc.—all sizes. Write for details.

*Trade-Mark of Dresser Manufacturing Division.

DRESSER "COPR-TUBE" FITTINGS

Dresser Manufacturing Division, 59 Fisher Ave., Bradford, Pa. (One of the Dresser Industries). In Canada: Dresser Mfg. Co., Ltd., 629 Adelaide St., W., Toronto, Ont. Sales Offices: New York, Chicago, Houston, San Francisco

For more details circle NED-3389 on enclosed inquiry slip

SELF-LOCKING FASTENINGS
effective on any threaded device

Working effectively on threads of varying pitch diameter, Nylok self-locking fastenings employ as locking medium tough resilient nylon plug inserted through body of nut or fastening and staked permanently in place. Locking medium projects slightly beyond crest of thread; and when nut is run down on bolt, nylon is compressed but not cut by bolt threads. Its spring-like action grips threads tightly and sets up counter thrust to create strong metal-to-metal wedging of bolt and nut threads. When nut is removed, 'plastic memory' of nylon makes locking element return to its original shape. Made by **Nylok Corp.**, Dept. 1, 475 Fifth Ave., New York 17, N. Y.

For more details circle NED-3390 on enclosed inquiry slip

FISH TAPE REEL
keeps unused tape safely coiled

Available in popular lengths and ⅛ x 0.060-in. and ¼ x 0.060-in. sizes, Hi fish tape reel employs offset seam to eliminate sharp edges and has permanent Black Magic finish that will not chip or rust. It is recommended as tool for electricians and maintenance men because it keeps tape coiled and ready for immediate use. Packaged fish tapes can be obtained also in popular lengths of oil tempered flat spring steel in same widths and gage as listed above. Made by **Holub Industries, Inc.**, 411 DeKalb Ave., Sycamore, Ill.

For more details circle NED-3391 on enclosed inquiry slip

WOOD-BORING BITS
fit ¼-in. portable electric drills

Recommended for use in portable power tools when boring ½ in. or smaller holes in soft or hard wood, these wood-boring bits are of solid-center design and have single-cutter extension lip type head with outlining spur. No pressure is required, and holes can be bored quickly and smoothly. Bits are packaged as set of five in metal edge box in sizes of 1/4, 5/16, 3/8, 7/16 and 1/2-in. They can be purchased individually also. Made by **Greenlee Tool Co.**, 2136 Twelfth St., Rockford, Ill.

For more details circle NED-3392 on enclosed inquiry slip

NOW—Precision Balls of Synthetic Sapphire

These balls of synthetic sapphire, polished to within 20 micro-inches of sphericity, are resistant to wear, heat, and corrosion. In many applications they need not be lubricated.

Available in 1mm, 1/16 inch, ⅛ inch, and ¼ inch sizes, and in three surface finishes.

PROPERTIES

Coefficient of Friction 0.140
Hardness (Knoop) 1525-2000
Dielectric Constant 7.5-10
Modulus of Rigidity ..... 21.5-27.5 x 10^6 psi
Thermal Coefficient of Expansion ..... 5.0-6.7 at 50°C (per °C x 10^6)
Chemical Resistance ..... Unaffected by acids, dilute alkali.

Call or write any LINDE office for information on these balls or the other forms of synthetic sapphire.

THE LINDE AIR PRODUCTS COMPANY
Unit of Union Carbide and Carbon Corporation
30 East 42nd St. UCC New York 17, N. Y.
In Canada: Dominion Oxygen Company, Limited, Toronto

For more details circle NED-3393 on enclosed inquiry slip

LOW-COST STACKING TOTE BOX

BOXES INTERLOCK.. ELIMINATE COSTLY RACKS

LIGHT WEIGHT

2 CU. FT. SIZE (SHOWN) WEIGHS ONLY 8½ LBS.

CHEMICALLY HARDENED CORRUGATED BOARD

OVER 8 STOCK SIZES OF STACKING BOXES AVAILABLE NOW

Totes more payload, costs less money—Convoy Tote Boxes cost 50% to 60% less, weigh 50% to 60% less than steel.

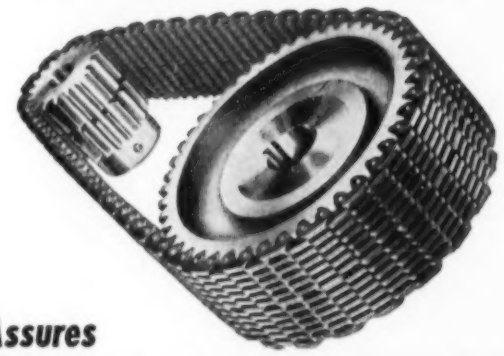
Strong, Durable — many Convoy Tote Boxes have been in daily production use for more than two years. No Maintenance—so inexpensive that they can be discarded when they finally become unserviceable.

Write for Details

CONVOY, INC. Dept. N CANTON 7, OHIO

For more details circle NED-3394 on enclosed inquiry slip

WHITNEY SILENT CHAIN



Assures Efficient, Positive Power Transmission

Regardless of your drive problems, Whitney Silent Chain will meet your particular requirements. These tough, rugged chains deliver full power without friction loss or slippage. Their positive grip helps maintain product uniformity. They withstand shock loads without breakage... give long life and cut maintenance to the bone. And remember Whitney Cut Tooth Sprockets complete the combination assuring efficient power transmission. It will pay you to *standardize* on Whitney. Write for complete information.

THE WHITNEY CHAIN & MFG. CO.
203 Hamilton Street, Hartford 2, Conn.

For more details circle NED-3395 on enclosed inquiry slip

Tempilstiks°

the amazing Crayons that tell temperatures in

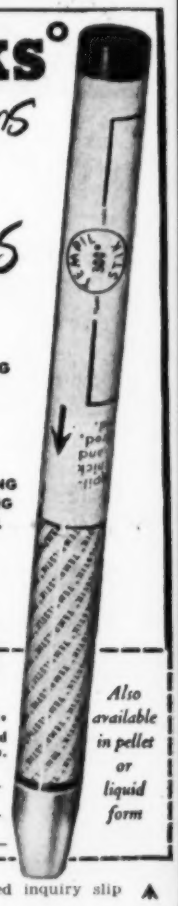
WELDING
FLAME-CUTTING
TEMPERING
FORGING
CASTING
MOLDING
DRAWING
STRAIGHTENING
HEAT-TREATING
IN GENERAL

It's this simple: SELECT the Tempilstik° for the working temperature you want. MARK your workpiece with it. WHEN the Tempilstik° mark melts, the specified temperature has been reached.

available in these temperatures (°F)
113°, 125°, 138°, 150°, 163°, and so on to 400°F
400°, 450°, 500°, 550°, 600°, and so on to 2000°F

gives up to 2000 readings

$2 each



Also available in pellet or liquid form

TEMPIL CORPORATION
132 W. 22nd St., New York 11, N. Y.

FREE—Tempil° "Basic Guide to Ferrous Metallurgy" —16¼" by 21" plastic-laminated wall chart in color. Send for sample pellets, stating temperature of interest to you.

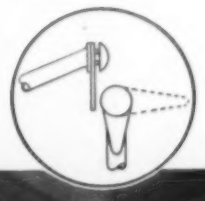
NAME _____
COMPANY _____
ADDRESS _____

For more details circle NED-3396 on enclosed inquiry slip

ADVANCE

ROLLING TOWERS

Convenient to Erect because of the Patented CAM LOCK*



All braces in ADVANCE Rolling Towers have self-contained Cam Locks which lock them instantly and securely to the panels by a flick of the wrist. No bolts, nuts, clamps, keys, toggle pins or tools are needed. Because of the patented Cam Lock, ADVANCE Rolling Towers are the most convenient and fastest to erect and dismantle.

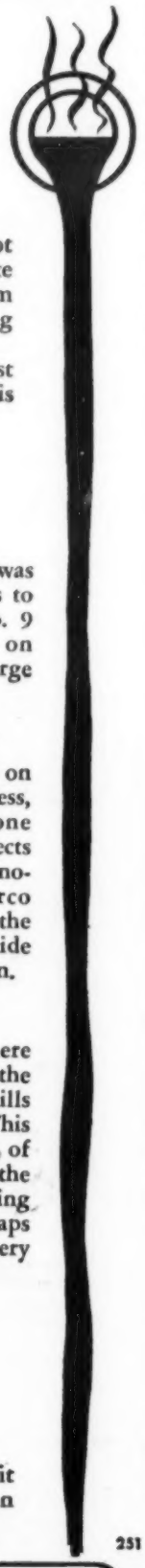
Brake type casters protect floors and permit easy movement from place to place. Towers as well as stationary scaffold of any height can be quickly assembled from the standard, interchangeable tubular steel parts. For convenience, dependability, and safety — you can't beat ADVANCE Rolling Towers. Investigate ADVANCE before you buy. *Write for literature and the name of your local distributor.*

* Pat. No. 2,483,862

BEAVER ART METAL CORPORATION 1202 Factory Ave., Ellwood City, Pa.

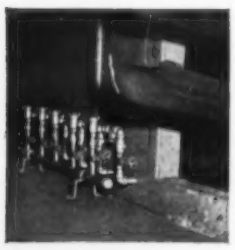
For more details circle NED-3398 on enclosed inquiry slip

WHAT ARE YOU PAYING FOR *Condensate?*



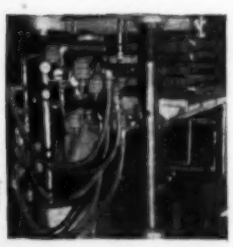
If your steam heated equipment is not supplied with hot, dry steam kept in intimate contact with the heated surface and free from air, you are paying for fuel that is being thrown away every hour.

Worse yet, you are paying double in lost production and rejects, if your equipment is not properly trapped and vented.



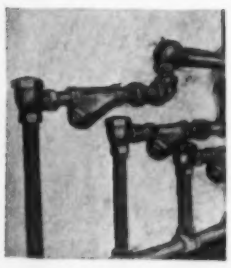
$ LOST TIME

Heating up time was reduced from 3 hours to 1 by using Sarco No. 9 Thermostatic Traps on enamel ovens in a large auto body plant.



$ REJECTED GOODS

With seven platens on this large plastics press, the weakest link (one cold section) made rejects frequent and without notice. Now seven Sarco Bucket Traps kick out the condensate and provide trouble-free production.



$ LOST FUEL

In greenhouses, where fuel is a large part of the cost, monthly fuel bills tell the story fast. This greenhouse saved 30% of the fuel and 60% of the make up water by using Sarco Thermostatic traps on every line and every coil.

FOUR TYPES OF SARCO STEAM TRAPS TO CHOOSE FROM

Sarco makes all accepted types and can fit the trap to the job. Ask for trap selection chart No. 1600.

251

SARCO SAVES STEAM

SARCO COMPANY, INC.
Represented in Principal Cities
Empire State Building, New York 1, N.Y.
SARCO CANADA, LTD., TORONTO 5, ONTARIO

IMPROVES PRODUCT QUALITY AND OUTPUT

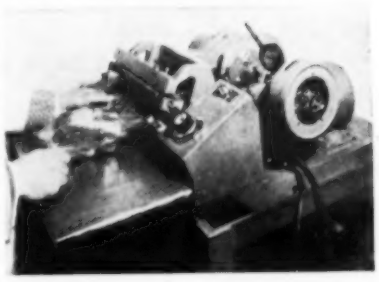
For more details circle NED-3399 on enclosed inquiry slip

HOIST TROLLEY
available in 1/4 to 2-ton sizes

Sealed ball-bearing wheels of Rocket Trolley for use with all hook type electric and hand-operated hoists are designed for smooth travel and have deep flanges to prevent climbing track. Wheel axles are equipped with Zerk fittings. Since trolley is self-aligning, loads are distributed equally to four wheels. Steel plate side frames align themselves automatically on either straight or curved track. Trolley is obtainable in sizes for use on 4 to 12-in. I-beams. Made by **David Round & Son,** 12300 Broadway, Cleveland 5, O.

For more details circle NED-3400 on enclosed inquiry slip

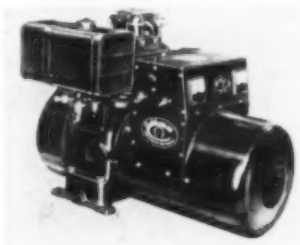
VACUUM SEALING MACHINE
for transparent plastic packages



Designed to prevent corrosion of products packaged in transparent tubes or bags of thermoplastic films, improved Seal-Vac vacuum and heat sealing machine utilizes adjustable mercury switch to control automatically vacuum desired. Accessory assembly for injecting neutral gas such as nitrogen can be used on this unit in event packer desires to reinflate package after atmospheric air has been removed and prior to heat sealing operation. Machine is controlled by foot switch and will go through complete cycle of vacuumizing and heat sealing when switch is depressed. Vacuums up to 25 in. Hg can be produced. Flat chrome plate nozzles are available in various lengths of connecting tubes to cover range of bag sizes up to 8 in. wide. Made by **Seal-Vac Co.,** Dept. ND, 533 N. Eleventh St., Philadelphia 23, Pa.

For more details circle NED-3401 on enclosed inquiry slip

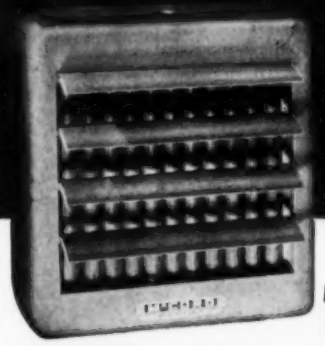
ELECTRIC POWER PLANT
in ratings of 350 to 2000 w ac or dc



Powered by four-cycle single-cylinder L-head type engine, this portable electric power plant is air cooled by flywheel blower and has efficient oil bath type air cleaner. Automatic reverse current cutout prevents discharging of battery through unit when generator voltage falls below battery voltage or when unit is stopped. Unit is recommended for application where power failure could endanger lives, for portable mobile tool shops and mobile public address systems. Made by **Cyclohm Motor Corp.,** 1217 State St., Racine, Wis.

For more details circle NED-3402 on enclosed inquiry slip

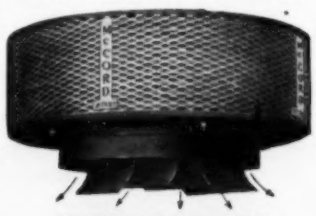
Better Heat Distribution WITH McCORD Unit Heaters



HORIZONTAL TYPE HEATER

More Heat . . . Better Distribution

More heat, better distribution is the answer to any heating problem. McCord, because there is a model and type to meet each particular condition, will do a better heating job. Every improvement that engineers and the experience of many users could suggest is incorporated in the improved models of McCord Unit Heaters. Due to the design and careful attention to balance a new degree of quietness has been attained. The scientifically designed spiral fin tube heating surface provides maximum heat transfer capacity.



VERTICAL TYPE HEATER

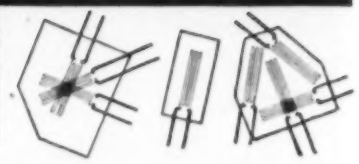
McCORD CORPORATION
2580 E. Grand Blvd.
Detroit, Mich.

Specify McCORD ON YOUR NEXT JOB

For more details circle NED-3403 on enclosed inquiry slip

***NEW* FEATURES—*NEW* ADVANTAGES**
BALDWIN TYPE "L" INDICATOR

FOR EXPERIMENTAL STRESS ANALYSIS IN PRODUCT DESIGN • RESEARCH • TESTING



Designed for use with SR-4® gages: gage factors of 1.77 to 2.20. Battery-operated; converter available. Ask for Bulletin 312.

- **INCREASED CONVENIENCE.** Each step increased to 20,000 microinches/in.
- **GREATER BALANCING RANGE.** Range Extender doubled to 20,000 microinches.
- **ADDED ADAPTABILITY.** Binding post connections for external bridge.
- **INCREASED VERSATILITY.** Oscillator jack for special problems.

THE BALDWIN LOCOMOTIVE WORKS, Philadelphia 42, Pa., U.S.A. Offices: Philadelphia, New York, Houston, St. Louis, Chicago, Cleveland, San Francisco, Washington, Pittsburgh. In Canada: Peacock Bros., Ltd., Montreal, Quebec.

TESTING HEADQUARTERS **BALDWIN**
5804

For more details circle NED-3404 on enclosed inquiry slip

Bag Closing Machines for Every Need . . .

. . . from UNION SPECIAL'S Complete Line! . . .

For lower production costs . . . stronger, neater closures . . . ability to get out rush orders in a hurry, you can't beat Union Special Bag Closing Machines! In the Union Special line, it's easy to find the right unit to meet your particular requirements: 25 different styles of machines! 10 styles of sewing heads! For any kind and size of bag—paper, cotton, burlap, or jute. ASK FOR ILLUSTRATED BULLETIN No. 200.

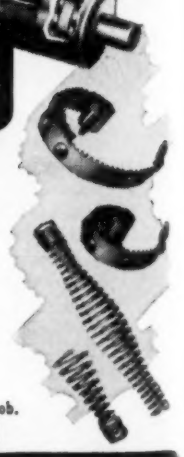
SEND FOR THIS ILLUSTRATED BULLETIN!

Union Special MACHINE COMPANY
416 North Franklin St., Chicago 10, Illinois

For more details circle NED-3405 on enclosed inquiry slip

Electric Eel cleans sewers and drains with SAFETY

New DOUBLE CABLE protects operator. *Speedy, more efficient.* Flexible Outer Sheath for Safety



Most Powerful Machine of its Type

- *Full Electric Reverse for Rapid Withdrawal*
- *Increased Speed Through Greater R.P.M.*
- *Lighter Due to New Aluminum Frame*
- *Rotating Inner Cables*
- *Lines 1 1/4" to 8" Diameter*
- *Runs up to 200 Ft.*
- *Over 6,000 in Use*
- *10 Years in Production*
- *Each Tool Engineered for a Particular Purpose*

Knives and tools are available for any pipe cleaning job.

Write for more information. Dept. NED

OHIO TOOL & ENGINEERING CO., Springfield, Ohio

For more details circle NED-3406 on enclosed inquiry slip

When you have design problems involving temperature or pressure control—find out how BRIDGEPORT Bellows Assemblies can help you!

Used in all industries. Designed and built to *your* requirements. Expert technical help. Complete, speedy service. Wide range of metals and sizes.

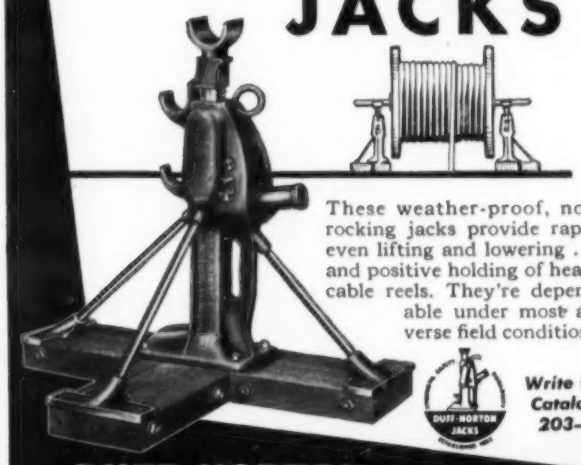
Send for idea-filled Catalog JZ.

Bellows Assemblies . . . Bellows . . . Bellows Devices

BRIDGEPORT THERMOSTAT
Division
ROBERTSHAW-FULTON CONTROLS CO., BRIDGEPORT 1, CONN.

For more details circle NED-3407 on enclosed inquiry slip

Keep heavy reels from tipping or wobbling with **DUFF-NORTON CABLE REEL JACKS**



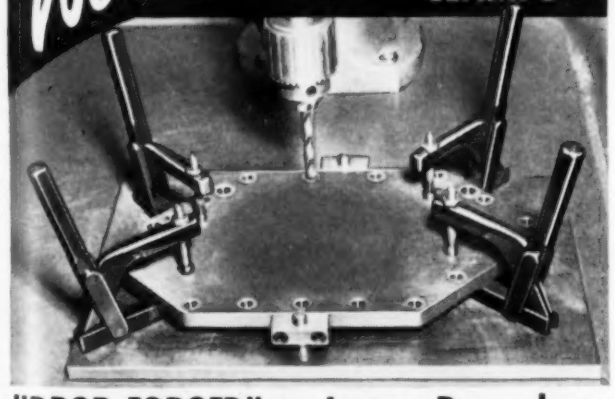
These weather-proof, non-rocking jacks provide rapid, even lifting and lowering . . . and positive holding of heavy cable reels. They're dependable under most adverse field conditions.

Write for Catalog 203-H

THE **DUFF-NORTON** MANUFACTURING CO.
Main Plant and General Offices: PITTSBURGH 30, PA. Canadian Plant: TORONTO 5, ONT.
"The House that Jacks Built"

For more details circle NED-3408 on enclosed inquiry slip

Wolverine DROP-FORGED TOGGLE CLAMPS



"DROP-FORGED" to Insure Ruggedness and Long, Dependable Service

WOLVERINE Toggle Clamps are preferred wherever speed, strength, durability, versatility and economy are essential in solving clamping problems. Write for Bulletin C-649.
IMMEDIATE DELIVERY

SINCE 1926

WOLVERINE TOOL CO.
1482 E. Woodbridge • Detroit 7, Michigan

THERE IS A TYPE AND SIZE OF WOLVERINE CLAMP TO SUIT YOUR NEEDS

For more details circle NED-3409 on enclosed inquiry slip

TILTING MOTOR BASE
designed for fractional-hp motors

Intended for use with relatively small electric motors, this compact tilting motor base weighs only 10 lb and has reversible mounting brackets for versatility of motor installation. Convenient handle provides effortless adjustment of motor to desired position. Made by **Gerbing Mfg. Co.,** 650E W. Washington Blvd., Chicago 6, Ill.

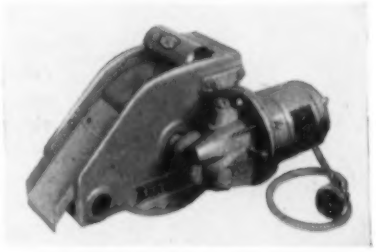
For more details circle NED-3410 on enclosed inquiry slip

CAR SHAKEOUT VIBRATOR
facilitates unloading bulk materials

Available in several sizes to suit flow characteristics of various materials, Branford Pneumatic car shakeout vibrator is recommended for handling such commodities as cement, lime, fertilizer and chemicals from covered hopper cars. Two styles can be obtained: one incorporating hook head with detachable jaw filler piece which makes it adaptable to both closed and split-side cars and other with wedge or dovetail head for use on cars equipped with female dovetail brackets that are bolted or welded to car. Air consumption varies with size and speed of unit, averaging 80 cfm for car vibrators having 3 and 4-in. long strokes and 10 cfm for smaller units having 2 and 2½-in. strokes at maintained air pressure of 80 psi. Speed varies from 1500 blows per minute for large units to 4500 blows per minute for 2-in. units. Made by **New Haven Vibrator Co.,** 141 Chestnut St., New Haven, Conn.

For more details circle NED-3411 on enclosed inquiry slip

MAGNETIC COOLANT SEPARATOR
handles up to 1½-gpm coolant flow



Consistently clean coolant supply is assured small honing, grinding and threading machines when No. 00 Barnesdril magnetic coolant separator is employed. Being small and compact, it can be mounted on side of machine or inside of coolant storage tank to receive coolant as it flows from work. Removal of metal particles and fused abrasive from coolant permits fast finish free of scratches. Made by **Barnes Drill Co.,** 866 Chestnut St., Rockford, Ill.

For more details circle NED-3412 on enclosed inquiry slip

Stanzoils

Grip Oily Things As If Dry!

Liquid-Safe Hands Do Better Work...

Most rubber or neoprene gloves are slippery as wet eels—but not neoprene Stanzoils. Marvelous non-slip finger finish grips oily work as if dry, gives workers assurance and speed. Made of Du Pont neoprene, these gloves far outlast rubber, protect hands in harmful materials at extra low cost per day. Stanzoil hand safety pays you in more production, less costly injury claims. Also available in white neoprene. Write today for informative catalog.

Synthetic Rubber Division
The Pioneer Rubber Company
634 Tiffin Road Willard, Ohio, U. S. A.
Los Angeles

STANZOIL PIONEER

OVER *30 Years* OF QUALITY GLOVE MAKING

For more details circle NED-3413 on enclosed inquiry slip

VIBRA-FREE*
CARBIDE TIPPED MEYCO SAWS

You will be interested in this radically new development IF your carbide tipped saws sound like a police siren; IF they develop a "snaky" cut after short usage; IF they dull fast because carbide tips become chipped.

MEYCO VIBRA-FREE* saws embody a new principle in saw design, a new control over vibration by the use of sound absorbing dampers, which eliminate excessive vibration, excessive noise . . . produce smoother cuts, longer blade life, longer life for carbide tips. You get MORE cuts between sharpenings and operators LIKE to use Vibra-Free* blades. Investigate this revolutionary development TODAY. Write for full information and price list:

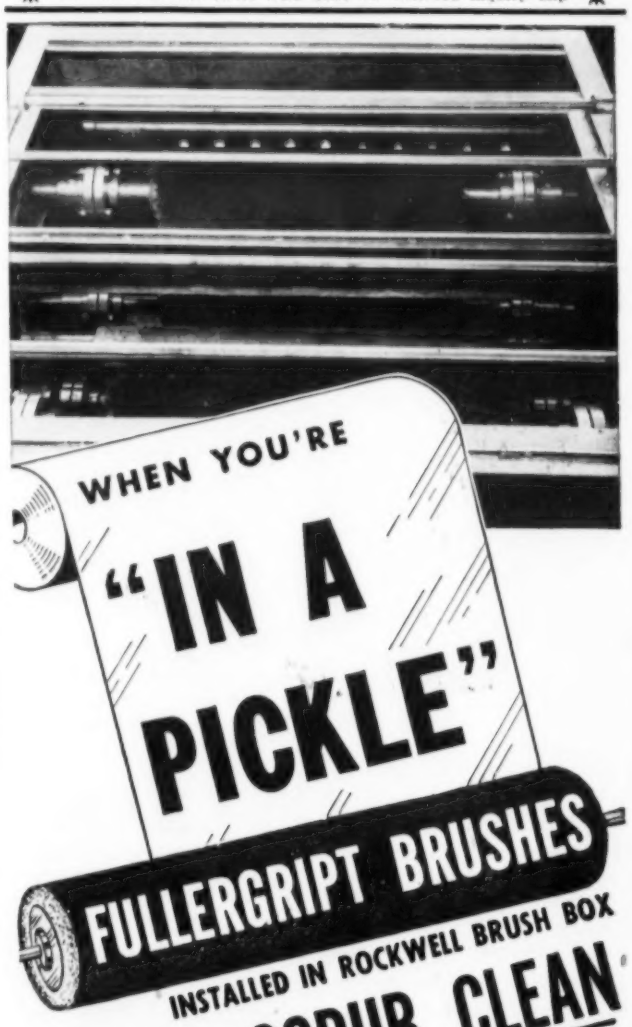
* Patent Applied For.

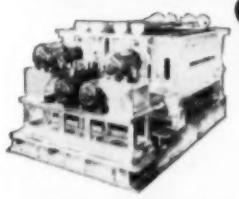
19

62 YEARS OF FINE CUTTING TOOLS

W. F. MEYERS CO., INC., BEDFORD, INDIANA

For more details circle NED-3414 on enclosed inquiry slip





Typical of the equipment designed and built for the metal working and metal finishing industries by the W. S. Rockwell Company of Fairfield, Connecticut is the Rockwell Brush Box, used in connection with a continuous strip anneal and pickle line to produce a clean, bright finish on brass strip. Into this machine Rockwell engineers have built four power-driven Fullergript brushes. The brush material is stainless steel wire anchored in a stainless steel backing strip to withstand the corrosive effect of the pickling or cleaning solution. The brush assemblies are mounted on cone type stainless steel self-centering couples for quick and easy removal of the brushes. The same set-up can be used for dry brushing metals that have a very light film of dirt or very light oxide not requiring a pickle.

Fullergript power brushes offer similar production economies in a wide variety of industries. It will pay you to investigate the possibilities of Fullergript for your own plant. Simply write to:

THE FULLER BRUSH COMPANY
INDUSTRIAL DIVISION, 3530 MAIN STREET, HARTFORD 2, CONN.

For more details circle NED-3415 on enclosed inquiry slip

Over Half of America's Top Companies Use "Speed Sweep"

THE BRUSH WITH THE STEEL BACK

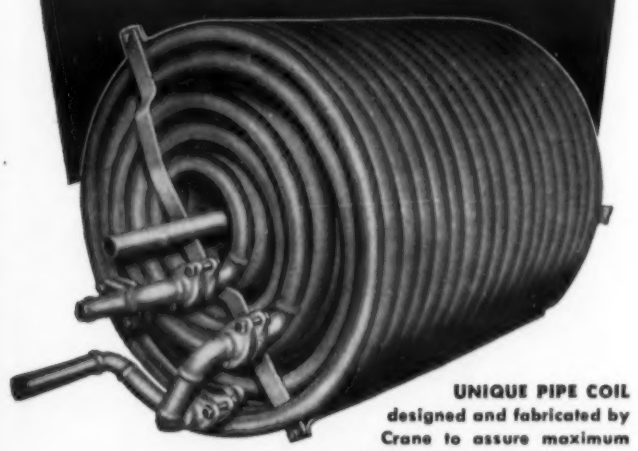
BECAUSE it sweeps faster and cleaner, and outlasts ordinary brushes 3 to 1, Speed Sweep has become the No. 1 sweeping tool of American Industry — used by over 50,000 firms. Whether you use a few or a lot of brushes, you'll find it pays to switch to Speed Sweep.

Write for styles, sizes and prices.

MILWAUKEE DUSTLESS BRUSH CO.
MILWAUKEE 3, WISCONSIN

For more details circle NED-3416 on enclosed inquiry slip

FABRICATED TO YOUR PRECISE REQUIREMENTS



UNIQUE PIPE COIL designed and fabricated by Crane to assure maximum dimensional compactness.

...pipe coils by CRANE

No pipe coil design is ever too large or small ... or too complex ... for Crane to handle. Five Crane Shops, strategically located, offer you skilled manpower and experience. Special machinery assures production techniques that make Crane-built pipe coils the finest available.

Crane Shops are skilled in fabricating tubular materials of all varieties. Although carbon steel pipe is most popular, pipe coils are fabricated from wrought iron, copper, brass, nickel, aluminum, 18-8 Mo, and various types of stainless steels. All pipe coils are regularly tested before shipment. Facilities for stress-relieving and heat-treating are available.

SEND FOR PIPE COIL CATALOG 318

This 48-page catalog—full of information for pipe coil specifiers and buyers—includes diagrams of all common pipe coil designs with dimensions; gives valuable engineering data on pipe coil materials and applications.

CRANE CO., 836 S. Michigan Avenue, Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

EVERYTHING FOR EVERY PIPING SYSTEM

CRANE

VALVES • FITTINGS • PIPE • PLUMBING AND HEATING

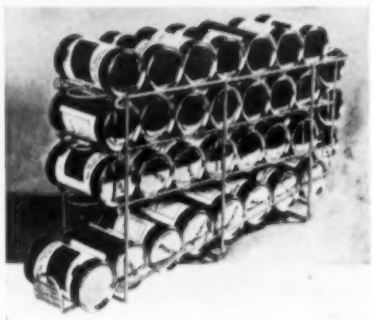
For more details circle NED-3417 on enclosed inquiry slip

ELECTRIC HAMMER
cuts metal and drills masonry

Motion conversion principle utilized by Super-Slugger electric hammer provides almost vibrationless operation. Hammer makes quick clean cuts in auto-gage steel at speed of 6-in. per second without starting hole. It drills concrete or masonry at rate of 1 in. per minute. Special tools adapt it quickly for weld chipping, peening, channeling, gouging, punching and other operations. Low-cost hammer weighs 7½ lb and can be operated easily with one hand. Complete line of hand forged oil-treated tools for use with hammer is available. Tool operates from any light socket. Made by **Noble & Stanton, Inc.**, 1063 Broadway, Bedford, O.

For more details circle NED-3418 on enclosed inquiry slip

CANNED PRODUCT DISPENSER
cans feed automatically by gravity



Ease of stocking, constant supply accessible to customer or user and efficient utilization of shelf space are advantages of Roll-a-Rack dispenser which holds 32 cans. It can be stocked by the case, and cans automatically roll to front of shelf. Made of sturdy bright-chromate finished steel, rack measures 22¾ in. long by 11⅛ in. high. Made by **Wire Products Specialties Co.**, Dept. R, P. O. Box 724, Oswego, Oreg.

For more details circle NED-3419 on enclosed inquiry slip

PORTABLE SPOT WELDER
aids fabrication of light metals

Capable of welding up to two pieces of 13-gage stainless or mild steel provided material fitup is good, model IMSW-52 portable spot welder weighs only 31 lb. Handle can be attached to either side of welder and permits it to be carried about as easily as any portable electric tool. It incorporates multi-pressure tong lever which enables user to get tight spot weld even where fitup is poor on lighter gages of metal. This model welder has about twice output of previous model MSW and is intended for use on 220-v lines only. Made by **Miller Electric Mfg. Co.**, 716 S. Bounds St., Appleton, Wis.

For more details circle NED-3420 on enclosed inquiry slip

AVOID NEEDLESS COSTS
in installing machines!

You can save money two ways with Isomode Pads.

(1) *On installation costs.* Even a single 5/16-inch thickness of this low cost, oil- and water-resistant mounting has proved successful in thousands of cases. Most machines need no bolting to floor or special base construction. Simply cut pad to required size and install under machine feet.

(2) *On operating costs.* These resilient pads, by absorbing vibration and shock, eliminate extra maintenance and real expense. You save floors from damage, cut energy-sapping noise, protect quality of work.

Isomode Pads work under a wide variety of equipment — from high capacity punch presses down to compressors. Try an installation for convincing results. Write for bulletin 405

*Trade Mark Reg. U.S. Pat. Off.

THE MB MANUFACTURING COMPANY, INC.
1066 State St., New Haven 11, Conn.

For more details circle NED-3422 on enclosed inquiry slip

Topflight Tape TOPFLEX

NEW RUGGED PRESSURE—SENSITIVE TAPE CONSTRUCTION

EXCLUSIVE WITH TOPFLIGHT

Rugged printed tape for marking, coding, labeling. Resists extremes of temperature and humidity. Printed surface protected from abrasive action. Available in choice of colors.

MADE TO ENGINEERS SPECIFICATIONS

TOPFLIGHT TAPE COMPANY
YORK, PENNSYLVANIA, U. S. A.

For more details circle NED-3423 on enclosed inquiry slip

You Can Tell Klixon Protectors Protect Motors *by the Company They Keep*

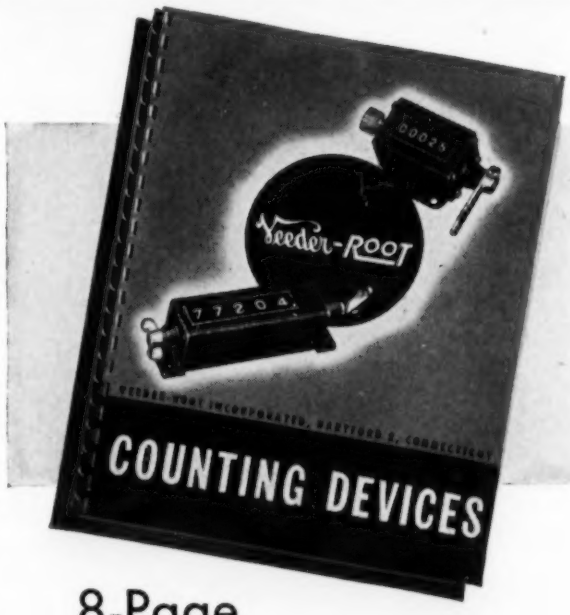
LEADING MOTOR MANUFACTURERS USE KLIXON PROTECTORS TO PREVENT MOTORS FROM BURNOUTS

Motor manufacturers everywhere extend the life line of their motors by installing Klixon Overheat Protectors into their products. Their experience proves that these foolproof protectors keep motors from overheating and burning out.

Motor users, too, are specifying and using motors with Klixon Protectors to assure dependable motor operation. They have found that protected motors do not burn out. This means that they save time and money by practically eliminating costly repairs and replacements.

KLIXON SPENCER THERMOSTAT
Division of Metals & Controls Corporation
1905 FOREST STREET, ATTLEBORO, MASS.

For more details circle NED-3421 on enclosed inquiry slip



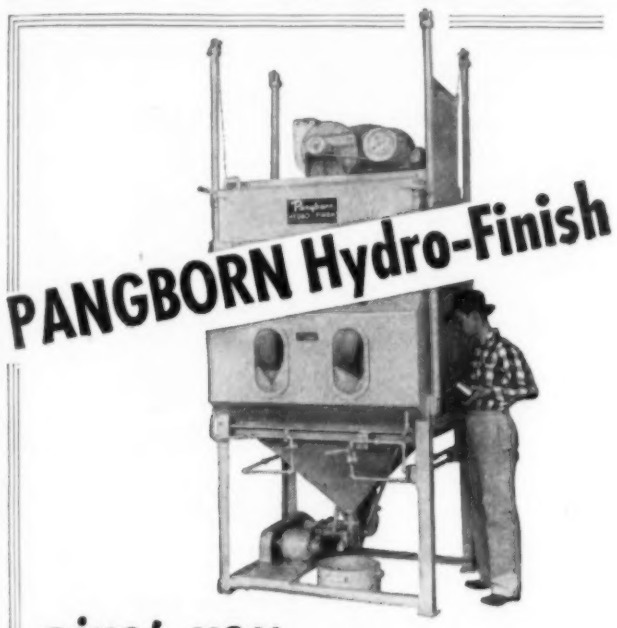
8-Page Condensed Catalog

shows Veeder-Root Counters for mechanical, electrical and manual operation. Write for a free copy.

VEEDER-ROOT INC.
HARTFORD 2, CONNECTICUT

For more details circle NED-3424 on enclosed inquiry slip

For more details circle NED-3425 on enclosed inquiry slip



gives you . . .

- **Better Paint Jobs**
- **Better Electroplating**
- **Better Finishing**
- **Better Products**

Slash finishing costs to rock-bottom in your plant! Amazing Pangborn Hydro-Finish cleans far faster than hand methods, yet holds tolerances to .0001"! Hydro-Finish cannot harm your product's sharp edges or corners, forms a perfect "tooth" for non-peel electroplating, finishing or painting.

Hydro-Finish makes threaded pieces turn easily . . . forms millions of little "oil pockets" in lubricated pieces to prolong product life. Fatigue failure is reduced because Hydro-Finish removes or blends grinding lines, etc!

Hydro-Finish is also valuable in your tool room—cleans production tools and dies in a fraction of the time needed for expensive hand cleaning.

WRITE TODAY for Bulletin 1400. Contains full facts on Pangborn Hydro-Finish and Pangbornite Abrasive. For your free copy, address: PANGBORN CORPORATION, 1294 Pangborn Blvd., Hagerstown, Maryland.

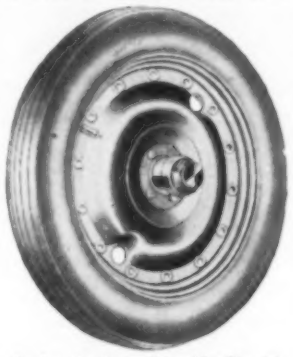
Pangborn

BLAST CLEANS CHEAPER with the right equipment for every job

For more details circle NED-3426 on enclosed inquiry slip

INDUSTRIAL DISK WHEEL
4.00 x 18 size is pneumatic-tired

Usable with many types of portable equipment, lightweight D-140 pneumatic-tired disk wheel is supplied in types for heavy or light-duty service. Drop-center rim double-disk wheel construction with seamless steel tubing hub is employed. Industrial tire has 27-in. diameter and is designed for good cushioning and maximum flotation. Ribbed-tread deep-groove design assures long even wear on free-rolling wheels. Load ratings vary from 835 to 1575 lb, depending on ply rating and speed. Wheels are supplied with either tapered or straight roller bearings and chain holes for theft security. Made by **Geneva Metal Wheel Co.,** 1055 Railroad St., Geneva, O.



For more details circle NED-3427 on enclosed inquiry slip

CHANNEL BAND COUPLING
joins beaded tubes and ducts

Available in sizes ranging from 1 to 4 in., these channel band couplings can be obtained with either quick coupler or T-bolt type latch. Sleeve liners are supplied in two types: silicone impregnated Fiberglas for temperature applications up to 500° F, and oil and gas resistant synthetic rubber for refueling joints at pressures up to 400 psi. Couplings will compensate for small amount of misalignment of tubing as well as manufacturing tolerances. Made by **Marman Products Co.,** Dept. NED, 940 W. Redondo Blvd., Inglewood, Calif.

For more details circle NED-3428 on enclosed inquiry slip

HIGH SPEED BURRING MACHINE
capacity is 300 teeth per minute

Obtainable with either single or multiple stations, this model No. 380 high speed burring and chamfering machine can handle spur or helical gears and multistart worms having diameters up to 7 in. It can be operated continuously at rated speed or intermittently when equipped with automatic work cycle. Cutters can be sharpened by grinding face angle, and one or both flanks of tooth form including root can be chamfered with each stroke of cutter. Features include enclosed indexing and cutter motion control unit running in oil bath, antifriction bearings, chip tray, adjustable drive gear and rapid timing device. Made by **Sheffield Corp.,** 721 Springfield St., Dayton 1, O.

For more details circle NED-3429 on enclosed inquiry slip

MANY INDUSTRIAL ROLL PROBLEMS are solved by using

SHAF-TITE* ROLLS

Many patented constructions provide strongest possible shaft setting. Your choice of many different types and materials—wood, rubber, iron, brass, stainless steel plastic, etc. Whatever your roll problem, put it up to Rodney Hunt.

SEND FOR NEW CATALOG NO. 48
Most complete publication of its kind

Industrial Roll Division
RODNEY HUNT MACHINE CO.
73 Maple Street, Orange, Mass.

* Reg. U.S. Pat. Off.

For more details circle NED-3430 on enclosed inquiry slip

So Simple Anyone can
ENGRAVE
on Plastic and Metal

new hermes
Engravograph

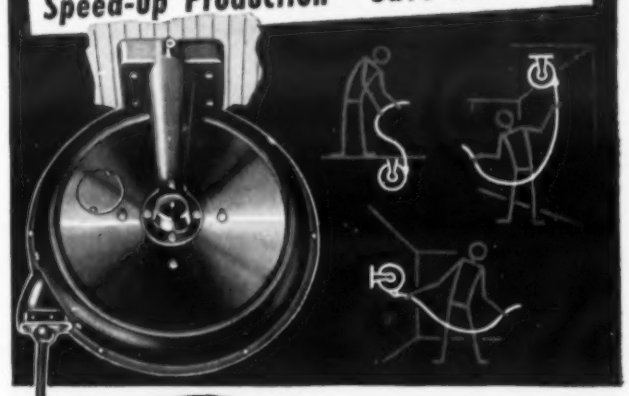
- Multiratio Tracing Arm. Engraves more than 15 sizes from ONE template.
- Covers a larger engraving area than any other portable unit of it's kind.
- Ideal for any lettering.

Send for Booklet Model IM

NEW HERMES, INC.
Dept No. 26
13-19 UNIVERSITY PL. N.Y. 3, N.Y.
World's Largest Manufacturer of Portable Engraving Machines

For more details circle NED-3431 on enclosed inquiry slip

Cut Air-Hose Costs — Prevent Accidents
Speed-up Production — Save Time . . .



with **CHAMPION AIR-HOSE REELS**
FOR CEILINGS—WALLS AND FLOORS

Champion Air-Hose Reels more than pay for themselves in the hose they SAVE. Champion Reels keep hose *off-the-floor,* eliminate the danger of tripping. Air-hose is always convenient to operator . . . a time saver that speeds-up production. Stays put at desired length—a slight pull rewinds hose at governed speed. Fully enclosed reel housing with swivel or stationary mounting. Furnished with 30 or 35 foot hose. Write TODAY for complete data sheet.

2816-R

CHAMPION PNEUMATIC MACHINERY CO.
837 NORTH PLEASANT STREET • PRINCETON, ILLINOIS

For more details circle NED-3432 on enclosed inquiry slip

The Synthane COMBINATION Gives the Right MATERIAL Answers

If your requirements are strict and your present material in any way unsatisfactory, Synthane may be the answer to your problem. Synthane has an unusual *combination* of mechanical, electrical and chemical properties which have led to its use in many applications in almost every industry.

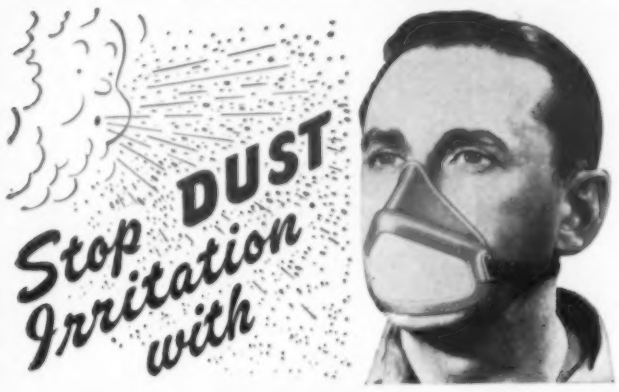
Light, hard, strong and dense, Synthane is easily machined. Resistant to corrosion and abrasion, it rates high in electrical properties such as high dielectric strength, low power factor and low dielectric constant.

Find out more about Synthane and its possible advantages to you. Clip and mail the handy coupon for your Synthane catalog.

TECHNICAL PLASTICS
SHEETS • RODS • TUBES
FABRICATED PARTS
SYNTHANE
MOLDED-LAMINATED
MOLDED-MACERATED

SYNTHANE CORPORATION
Northeast River Road, Oaks, Pa.
Please send me a copy of the complete Synthane catalog.
Name_____
Firm_____
Address_____
City_____ State_____

For more details circle NED-3433 on enclosed inquiry slip



new sensational **FLEX-A-FOAM**
— FILTER MASK —

Easier to breathe through and talk through than an ordinary handkerchief . . yet filters non-toxic nuisance dusts as small as 1/25000 of an inch!

- **Extremely light in weight — only 1 ounce complete.**
- **Self-adjusting to every face size.**
- **Simple in design with only 4 interlocking parts.**

SAMPLE $1.50 POST PAID

Dust protection your workers will welcome and WEAR!

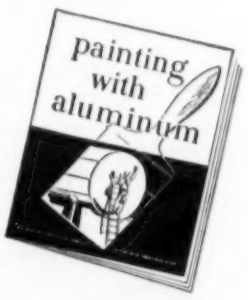
Write TODAY for descriptive circular

THE GOGGLE PARTS COMPANY
1468-70 W. 9th St. • Cleveland 13, Ohio

For more details circle NED-3436 on enclosed inquiry slip

PROTECTED OUTSIDE ...COOLER INSIDE!*

ONE COAT COVERAGE DOES BOTH JOBS...



NEW FREE BOOK tells how, with the *right* aluminum paint, you can protect metal buildings outside against moisture and rust; at the same time keep them many degrees cooler inside when the sun is hot. Alcoa does not make aluminum paint, but we have prepared this book to help you buy and apply it right.

If you've been buying aluminum paint without the information this book contains; if you've never used the aluminum paints it describes—your paint knowledge is out of date. New pigment and vehicle developments have revolutionized aluminum paint performance. This book tells how to select the best and apply it for greatest service. Includes coverage tables, facts on correct types of ready-mixed aluminum paints for metal, masonry, or wood, inside or out—and for heated surfaces.

This valuable book will be sent by return mail. Attach this coupon to your letterhead.

ALUMINUM COMPANY OF AMERICA
Paint Service Bureau, 1735E Gulf Bldg., Pittsburgh 19, Pa.
Please rush me free copy of: *"Painting with Aluminum".*

Name (Please print)_____

Address_____

City_____ State_____

We plan to paint the following:_____

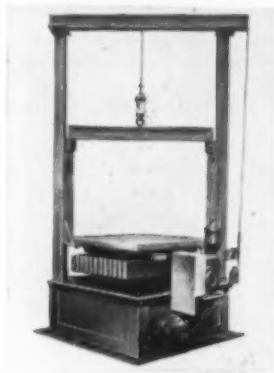
Look for this shield on aluminum paints made by many paint manufacturers using ALCOA PIGMENTS.

*The RIGHT aluminum paint for this job is ALUMINUM METAL & MASONRY PAINT.

ALCOA

For more details circle NED-3437 on enclosed inquiry slip

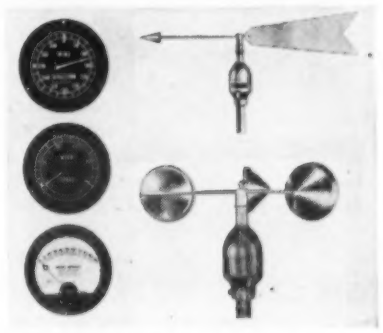
SHOCK TESTING MACHINE
decelerations up to 100 g obtainable



Capable of handling equipment as large as 36 x 36 x 30-in. high, and weighing up to 150 lb, type 150 VD impact shock machine is usable for testing in accordance with government specification AN-E-19. Machine has base with 4-ft square sand box, platform to carry equipment being tested, electric hoist and uprights to guide platform in its substantially free fall from desired height. Steel-sheathed blocks attached to underside of platform penetrate sand at end of drop to give single deceleration pulse without rebound. Calibration curves show relation between height of fall, maximum deceleration and duration of deceleration pulse for various arrangements of control blocks. Duration of deceleration can be adjusted to various values between 6 and 32 milliseconds. Made by **Barry Corp.**, 179-X Sidney St., Cambridge 39, Mass.

For more details circle NED-3438 on enclosed inquiry slip

WIND SPEED & DIRECTION INSTRUMENTS
usable with air conditioning, smoke control and other similar equipment



Built to maintain high degree of accuracy, line of wind speed and direction instruments is approved by US Weather Bureau and CAA. Shown at upper right, WD-301 wind direction transmitter is accurate to within 2 degrees, is noiseless in operation and responds instantly to slightest change of wind direction. Normally it operates from 110-v ac; but in case of power line failure, it can be operated from 12-v dry cell source. It can actuate up to three indicators simultaneously.

At lower right is WS-301 wind speed transmitter which is accurate within 1 mph up to 140 mph. Entirely self-contained, it requires no external power supply and has electrical power output which is sufficient to actuate number of indicators which can be located several miles distant.

Wind direction indicator at upper left employs jeweled bearings to reproduce accurately and instantly slightest change of transmitter vane direction. WS-44250 wind speed indicator, left middle is 250-degree D'Arsonval voltmeter type and is calibrated to within 1½ per cent of full scale accuracy. Having conventional 100-degree D'Arsonval movement, WS-44100 wind speed indicator, below, is similar but less expensive type instrument. Made by **Electric Speed Indicator Co.**, Dept. ED, 12234 Triskett Rd., Cleveland 11, O.

For more details circle NED-3439 on enclosed inquiry slip

FOR A QUICK, CLEAN SWEEP!
"BIG X" Dust MOP

Nationally famous, "BIG X" saves time—lowers labor cost. Snatches up dust on contact. A durable, heavy-duty giant, available in various widths up to 60". Can be removed from block and washed like new.

Prize-Winning 16-ply VICTORY Wet Mop

MAN-sized mops for MAN-sized jobs

Don't try to mop big areas with household types of mops. Instead, do as thousands of organizations do: Mop much faster and get much longer service *at lower cost* from "BIG X" Dust Mops, prize-winning 16-ply VICTORY Wet Mops, HOLZ-EM Applicators—for wax, seals, varnish, etc. **(Ask for free, illustrated specification sheets.)**

HOLZ-EM Finest of All Applicators

Your supplier has these mops or can get them for you from

AMERICAN STANDARD MFG. COMPANY
(MEMBERS OF THE NAT. SANITARY SUP. ASSOC.) • Incorporated 1908
CHAS. E. KREBS and WALTER O. KREBS
2516 SOUTH GREEN STREET • CHICAGO 8, ILLINOIS

For more details circle NED-3440 on enclosed inquiry slip

ARO ELECTRODE DRESSER
does job 5 times faster!

This new tool is light in weight, powerful, portable . . . used for re-shaping copper electrodes on spot welding machines without removing tips from machines. 1200 r.p.m. cutting speed does job *right—nearly 5 times faster* than former methods! Cutters for No. 1 and No. 2 dome-type electrodes and No. 1 and No. 2 pointed or tapered-type electrodes available from stock; other types on special order. Write for bulletin. See your nearest industrial distributor.

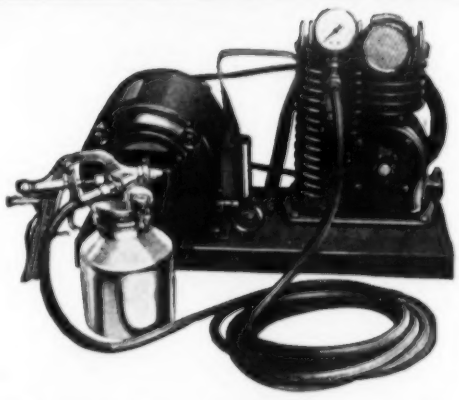
ARO
AIR TOOLS

Also . . . LUBRICATING EQUIPMENT . . . HYDRAULIC EQUIPMENT . . . AIRCRAFT PRODUCTS. . .GREASE FITTINGS

The Aro Equipment Corporation, Bryan, Ohio
Aro of Canada, Ltd., Toronto, Ont.

For more details circle NED-3441 on enclosed inquiry slip

PUT AIR TO WORK WITH
PRESSURE PRINCESS



THIS portable single cylinder, piston type air compressor is a heavy duty, compact unit ideally suited for factory maintenance work. Equipped with spray hose and gun, it cuts time and cost of painting, inside and out. Handles any spray liquid. Compressor can be used for tire inflation and fleet lubrication and is suitable for many industrial purposes.

If your product incorporates an air compressor investigate the adaptability of Pressure Princess.

Write For Literature

THE CAMPBELL-HAUSFELD CO.
193 RAILROAD AVENUE HARRISON, OHIO

For more details circle NED-3442 on enclosed inquiry slip

Check with **FAIRFIELD** *for FINE GEARS*

- ✓ TOP QUALITY
- ✓ MASS PRODUCTION ECONOMY
- ✓ DEPENDABLE SERVICE
- ✓ UNEXCELLED FACILITIES
- ✓ ENGINEERING RECOMMENDATIONS

Fine Gears
MADE TO ORDER:
SPIRAL BEVEL • STRAIGHT BEVEL • HYPOID • HERRINGBONE • HELICAL • DIFFERENTIALS • SPUR • WORMS AND WORM GEARS

MASS production of fine gears is an accomplishment that requires the ultimate in manufacturing facilities and experience. And it's all here at Fairfield — metallurgical departments, batteries of the most modern machines, complete heat treating equipment, all operated by skilled craftsmen producing truly fine gears. Here is 30 years of experience translated into the gear-making "know-how" that is essential to manufacturing high quality, dependable gears.

Our facilities are complete for producing gears for a wide variety of applications. Why not consult Fairfield on your next gear problem? Your inquiry will receive prompt attention.

FAIRFIELD MANUFACTURING CO.
317 SOUTH EARL AVENUE • LAFAYETTE, INDIANA

For more details circle NED-3443 on enclosed inquiry slip

it takes just 2 seconds to reach - and talk to anyone in your business with

ELECTRONIC AMPLICALL INTERCOMMUNICATION

Speeds Work

Cuts Costs

SEE YOUR CLASSIFIED PHONE BOOK under "Intercommunication" for your local AMPLICALL specialist, or write us direct

Just touch a button for instant speaking contact within and between all departments of your business. AMPLICALL takes the load off busy switchboards—puts an end to wasteful walking, waiting and slowdowns—speeds up and increases work output. Pay for itself quickly by converting costly wasted time into working time. Get the full details on AMPLICALL today!

Electroneering is our business

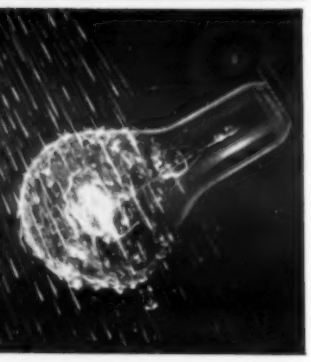
SOUND EQUIPMENT — Rauland — INTER-COMMUNICATION

RAULAND-BORG CORPORATION • 3523-D ADDISON ST., CHICAGO 18, ILL.

▲ For more details circle NED-3444 on enclosed inquiry slip ▲

"Weathercote"

Stops Costly Lamp Failures



Water test demonstrates how "Weathercote" saves expensive lamp replacements.

THIS low cost all-purpose Amplex lamp saves expensive lamp replacements indoors or outdoors. Cuts lamp mortality up to 75% where moisture, steam or outdoor weather kill ordinary lamps too soon. Costs just a fraction more than ordinary lamps.

DOUBLE DUTY A money-saving extra-service 2000-hour lamp that cuts lamp replacement costs almost in half. Perfect for high bay and hard to reach locations, and for rugged installations where ordinary lamps burn out too soon.

DELIVERS MORE LIGHT Pure silver-lined sealed-beam reflector lamps that deliver more light on the work area—that maintain maximum reflecting brilliancy for the life of the lamp.

amplex

Write for catalog and sample lamps to Amplex Corporation, Dept. 35, 113 Water St., Brooklyn 1, N.Y.

Industrial infra-red heat lamps • street lamps • fluorescent lamps • rough service lamps • vibration service lamps.

▲ For more details circle NED-3445 on enclosed inquiry slip ▲

Shredded Paper

IS THE IDEAL PACKING MATERIAL

produce it yourself for . . .

(1) Real dollar & cents savings
(2) Minimum inventories
(3) Substantial space savings
(4) Dependable supply

Test a "Silver" paper shredder in your own shop without obligation—Get complete details by writing today to:

INDUSTRIAL SHREDDER & CUTTER CO.
107 Mill Street Salem, Ohio

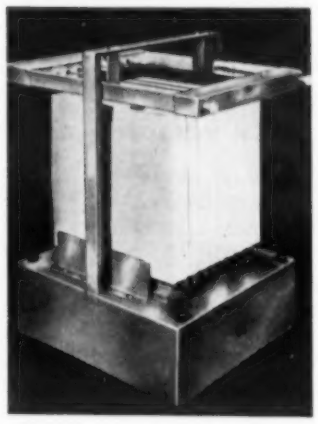
▲ For more details circle NED-3446 on enclosed inquiry slip ▲

NUCLEAR CALCULATOR
helps solve research problems

Consisting of combination of scales used only in field of radioactivity, Nuclearule circular slide rule simplifies solving many problems in field of nuclear research. By use of rule, it is possible to obtain quickly count rate, statistical error, coincidence loss, activity of sample versus half life, radiation flux after passage through absorbers and other data. Made by **Nuclear Instrument & Chemical Corp.**, 647 N. Franklin St., Chicago 10, Ill.

▲ For more details circle NED-3447 on enclosed inquiry slip ▲

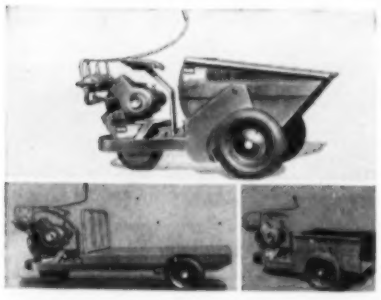
DRY-ICE SLICER
electric unit cuts automatically



Standard 50-lb dry ice block is cut by this automatic slicing unit into slabs measuring 10 in. sq. by 1 in. thick. Cutting is performed by low-voltage wires in gravity-feed frame. Machine is completely safe and shuts off automatically when slicing is completed. It will operate on 110-v 60-cycle single phase ac. Made by **Foster-Built Bunkers, Inc.**, 759 W. Polk St., Chicago 7, Ill.

▲ For more details circle NED-3448 on enclosed inquiry slip ▲

MOTORIZED WHEELBARROW
handles 2000-lb or 14-cu ft load



Originally designed for material handling in heavy construction industry, improved Power-Cart (*See NED Mar. '48*) has interchangeable bulk, box and platform trays to increase its adaptability for other uses. New bulk handling tray is balanced on trunnions at each side and dumps or pours under complete control of operator. Triplatch releases tray, and tilt-brake holds it at any pouring angle.

Cart travels at speeds up to 10 mph and climbs 20 per cent grades with capacity load. Steering and power control are by tiller. When held down, tiller engages 7-hp four-cycle engine to drive cart forward and when held in upward position, to reverse. Releasing tiller automatically disengages power. Made by **Gar-Bro Mfg. Co.**, 2419 E. Sixteenth St., Los Angeles 21, Calif.

▲ For more details circle NED-3449 on enclosed inquiry slip ▲

SEE—TEST—FEEL the LATEST Developments in GASKET, WASHER and SEALING materials

FREE GUIDE brings you over 50 ACTUAL SAMPLES!

If you manufacture products employing gaskets, washers, seals, sound-deadening materials, dampening materials, dielectrics, etc., this GUIDE TO BETTER SEALING will be sent to you without cost or obligation.

The GUIDE contains 50 actual samples of the most commonly-used sealing materials, which Fel-Pro supplies to such leading companies as American Can, Baldwin Locomotive, DuPont, General Electric, Packard, Pure Oil, Quaker Oats, Standard Oil, Western Electric and Westinghouse.

TEST THEM YOURSELF
FEL-PRO'S GUIDE TO BETTER SEALING makes it possible for you to closely inspect a wide range of materials, test them under all kinds of conditions in your own plant, treat them chemically or make any other tests to help you decide which are best suited for your particular needs.

GIVES FULL SPECIFICATIONS
Among the sample materials contained in this SEALING GUIDE are such newly-developed materials as the revolutionary "Fel-Pro 131". This material is particularly suited to automotive engine parts, chassis parts, pumps, high compression flanges, etc., because of its low swell (just 2%) and exceptional durometer hardness of up to 80 plus or minus 5. Complete specifications are given for each of the 50 material samples, including durometer readings, sheet and roll sizes, applications, etc.

PARTIAL CONTENTS
Felbestos 100 for manifold and hot-spot applications!
Metallic Gasket Materials!
Fel-Pro 131 the new low-cost rubber!
Karropak treated to maintain uniformity!
Fel-Pak for water, oil, etc., connections!
Kork-Karro for use between metal and non-metal surfaces!

SEND TODAY
To get your FREE copy of the FEL-PRO GUIDE TO BETTER SEALING without obligation, just write your name and title on your company letterhead and mail to: Felt Products Mfg. Co., 1510 Carroll Avenue, Chicago 7, Illinois.

LOOK TO FEL-PRO for the LATEST in sealing materials

▲ For more details circle NED-3450 on enclosed inquiry slip ▲

FASTER SHAKEOUT . . . with R & M hoist

Robbins & Myers Twin-Hook Hoists on the Robins Car Shakeout give a double lift to speed and efficiency of car unloading. Adaptable, sturdily-constructed hoists add to life of all your equipment.

Blocks are reeved with two independent steel cables; either will hold weight of the shakeout unit. Push-button control provides independent operation of the hoist and shakeout from a single station. Speed up to 16 F.P.M. (60 cycle) on lifts to 25 ft.

R & M Hoists are available in capacities from 250 to 20,000 pounds. Write for particulars.

ROBBINS & MYERS, INC.
HOIST & CRANE DIVISION, SPRINGFIELD 96, OHIO

▲ For more details circle NED-3451 on enclosed inquiry slip ▲

ACTUAL CHECK PROVES

No other Copying Process offers you

OZALID'S ECONOMY!

HERE'S PROOF!

See how 4 other most popular copying methods compare with the money-saving versatility of Ozalid.

	OZALID	Method A	Method B	Method C	Method D
Prints ready for immediate use	✓	✓	✓	✓	✓
No size restrictions	✓			✓	
No special plates, stencils, or inks	✓			✓	
No need to make negative	✓	✓	✓		✓
Additional copies immediately available	✓				
Easily makes duplicate masters	✓				

WHAT IS OZALID?

• Ozalid is a *speedy copying process* that uses sensitized paper to reproduce anything typed, drawn or written. You get perfect copies of letters, records, reports, photographs, files, drawings—anything.*

WHAT ARE THE ADVANTAGES OF THE OZALID PROCESS?

• **No size restrictions**—Ozalid copies can be made in *any* size, in sheets or continuous rolls.

• Copying errors eliminated. No *check-back* to original.

• Changes are easily made. Simply add new material to create a "composite master". No need to re-create an entire piece.

OZALID PAPER IS UNEQUALLED FOR QUALITY, TOO!

• For years, Ozalid has been established as the "Standard of Quality" among sensitized papers.

• Ozalid's "speed" is the same, month in and month out—stepping up production.

• Controlled product quality gives more prints at lower labor cost.

• Longer shelf-life—means less waste.

• If light won't shine through, an inexpensive intermediary step is taken.

OZALID, Dept. I 2, Johnson City, New York
Gentlemen: Please send free illustrated booklet that fully explains the Ozalid process.

Name.....

Company.....

Address.....

Or call your local Ozalid distributor listed in the classified telephone book

Cut Copying Costs...Use OZALID!

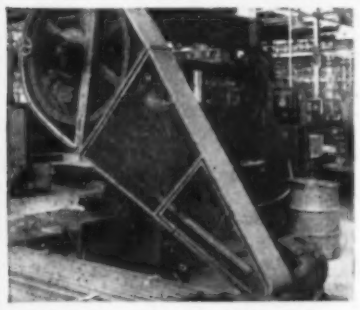
A Division of General Aniline & Film Corporation. "From Research to Reality"

▲ For more details circle NED-3452 on enclosed inquiry slip ▲

TRUSCON EXPANDED METAL

the steel for a thousand plant services

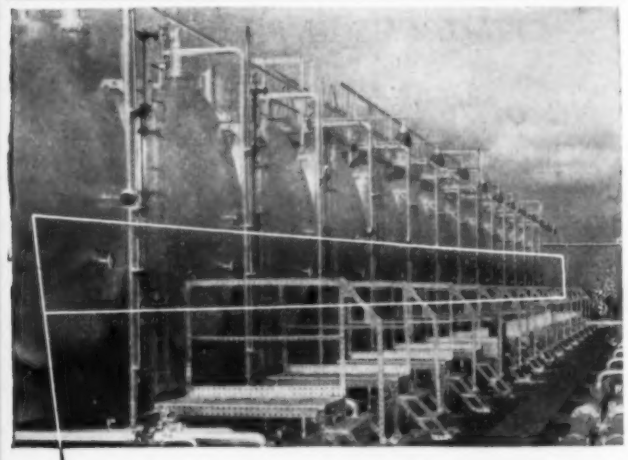
● Truscon Expanded Metal is a diamond mesh fabric expanded into flat sheets from a solid plate of low carbon open hearth steel. The steel is cut and drawn so that regular, symmetrical diamonds are formed with uniform strands. Truscon Expanded Metal is furnished plain, painted, enameled, bonderized or galvanized. Suggested uses—to mention a few: tree boxes, refuse burners, hot air registers, air filter containers, louvers, waste baskets, radiator covers, truck body enclosures and machine guards.



Write for Sales Bulletin No. B-420 for a description of the types and properties of Truscon Expanded metal.

TRUSCON Steel Company
YOUNGSTOWN 1, OHIO
Subsidiary of Republic Steel Corporation

▲ For more details circle **NED-3453** on enclosed inquiry slip ▲



Right down the line!

it's

WESTON

All-Metal Thermometers

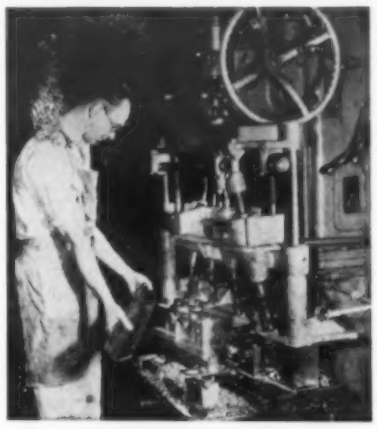
Wherever you need quick, accurate temperature readings—on tanks, processing equipment, bearings, pipe lines—specify WESTONS *right down the line.* Not only are their large, boldly marked dials easy to read, but their accurate dependability is assured by WESTON'S *all-metal* construction. They stay on the line longer—cost far less in the end. Available in types, stem lengths and ranges for most applications. Call your jobber or local WESTON representative, or write for Thermometer Bulletin. WESTON Electrical Instrument Corporation, 663 Frelinghuysen Avenue, Newark 5, N. J.

CONTACT-MAKING models for alarm or control purposes. MAX-MIN models to indicate highest or lowest temperature reached.

WESTON *Instruments*

▲ For more details circle **NED-3454** on enclosed inquiry slip ▲

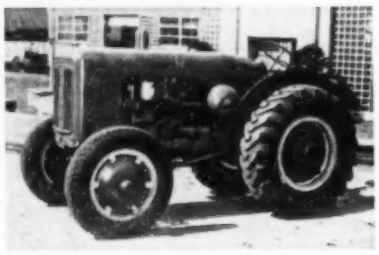
MULTIPLE ANGLE DRILLHEAD
designed for specific applications



Illustrated fixed-center drillhead was designed for Allis-Chalmers Mfg. Co. who uses it to drill holes in alloy steel at angles varying between 4 and 13 degrees on each side of perpendicular. Part being drilled is component of forage harvester which is built in production quantities. Many other types of special multispindle drillheads for industrial manufacturing applications can be obtained. Made by **Thriftmaster Products Corp.,** Dept. E-1, 1048 N. Plum St., Lancaster, Pa.

▲ For more details circle **NED-3455** on enclosed inquiry slip ▲

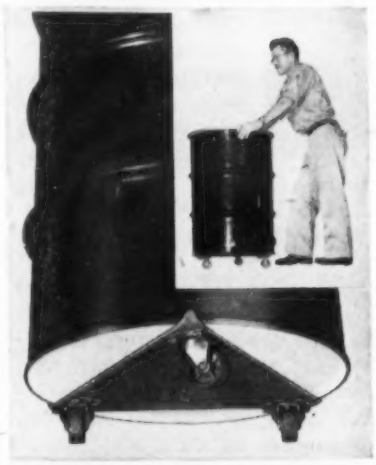
TRACTOR-COMPRESSOR
is versatile combination unit



Offered in two models, Pneumatractor tractor-compressor combination is powered with standard model 60 Unistage or 105 Pneumapower compressor. Wheelbase is 71½ in. and overall length is 117 in. Complete set of accessories is obtainable. They include front-end loaders, snow plows, backfill blades, front and rear winches, posthole diggers, Pneumajack, paving breakers and rotary brushes. Made by **Schramm Inc.,** Dept. NED, West Chester, Pa.

▲ For more details circle **NED-3456** on enclosed inquiry slip ▲

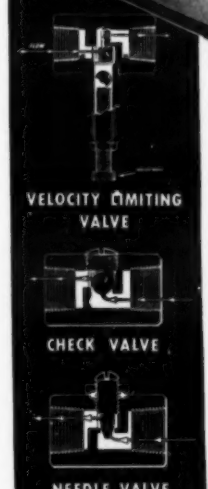
DRUM DOLLY
for moving all standard steel drums



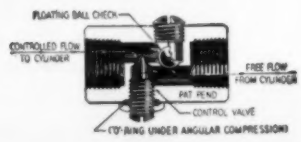
Made from one complete rolled steel plate, this drum dolly is triangular in shape. It has 21-in. sides, weighs less than 21 lb and will support up to 1000-lb loads. Three individually-mounted ball bearing-equipped full-swivel casters are employed. Dolly fits all standard 55-gal drums. Price is $9.75. Made by **Quinn Products Co.,** 714 W. 69th St., Chicago 21, Ill.

▲ For more details circle **NED-3457** on enclosed inquiry slip ▲

FLOW CONTROL VALVE for Cylinder Speed ADJUSTMENTS over a WIDE RANGE IN AIR OR HYDRAULIC USE



The Pneu-Trol Flow Control Valve combines an efficient Stainless Steel FLOATING BALL CHECK which opens and closes at the slightest change in flow direction, with a Vernier Type VARIABLE NEEDLE ORIFICE adjustment in a compact control which has widened air and hydraulic cylinder application by providing precise control of cylinder action. Modifications of the Pneu-Trol Valve are available as Plain Check, check with Fixed Orifice (orifice drilled by customer in the Standard Check Valve). Needle Valve and Velocity Limiting Check, as illustrated at left. All Pneu-Trol Valves are made from bar stock in brass (up to 1000 psi) or steel (5000 psi) or other body metals to your specifications. All internal parts are Stainless. All valves available in 5 sizes—⅛", ¼", ⅜", ½" and ¾". Attractive prices—immediate delivery. Write for illustrated circular and price list.



WRITE ...

Pneu-Trol Devices, Inc.
3122 N. California Ave. Chicago 18, Ill.

▲ For more details circle **NED-3458** on enclosed inquiry slip ▲

gives ordinary water greater fire extinguishing power

new Rockwood Type SG-48 WaterFOG Nozzle

Rockwood type SG-48 WaterFOG Nozzles discharge (1) high velocity WaterFOG (2) straight stream or (3) low velocity WaterFOG. They will out-perform any other fog nozzles operating on either high or low water pressures for all around fire fighting purposes. The nozzles provide greater protection and fire fighting efficiency for your firemen.

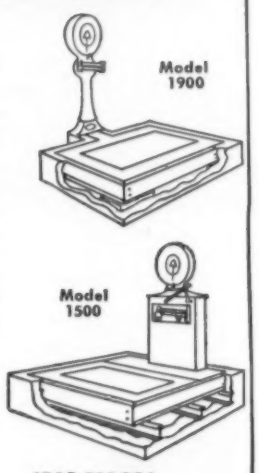
Approved by Underwriter's Laboratories, Inc. and Factory Mutual Laboratories. Write for bulletin C-501R.

ROCKWOOD SPRINKLER CO.
44 HARLOW STREET WORCESTER 5, MASS.

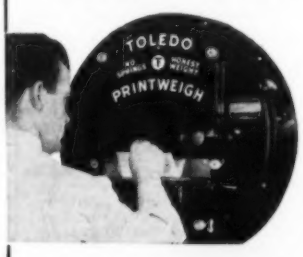
▲ For more details circle **NED-3459** on enclosed inquiry slip ▲

TOLEDO FLOOR SCALES

help you Save Time . . . CUT COSTS!



Toledo Floor Scales are speedy, accurate, dependable . . . provide vital cost-data on materials and products in receiving, shipping and processing. Double parallel link platform suspension assures long life, dependable accuracy. Model 1900 for medium capacities. Model 1500 for capacities to 6500 lb. Write for bulletin 2410. Toledo Scale Company, Toledo 1, Ohio.



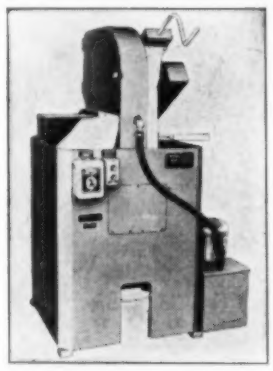
STOP ERRORS

Toledo Printweigh provides printed weight records...available on all types of Toledo Dial Scales...assures you that accurate indication of the Toledo dial will reach your accounting records without chance of human error.

TOLEDO
HEADQUARTERS FOR SCALES

▲ For more details circle **NED-3460** on enclosed inquiry slip ▲

ABRASIVE CUTTING . .
Wet or Dry with this low-priced machine



The Model 15 Campbell Abrasive Cutting Machine will cut solid bar stock and tubing economically. Material may be steel of any analysis—annealed or unannealed—brass, monel, ceramic or phenolic plastic.

Wet model makes extremely smooth, clean cuts to a tolerance of a few thousandths—with little or no burr or burn.

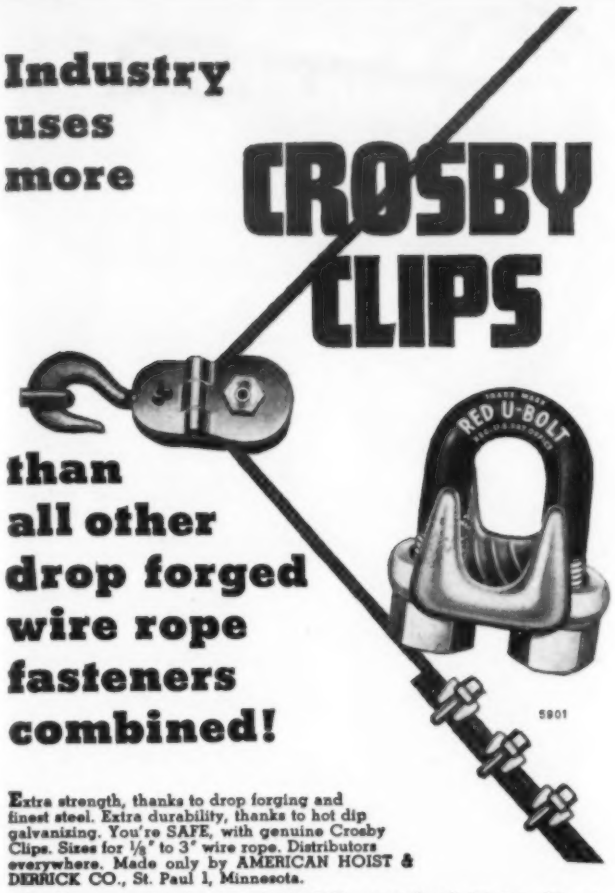
Through manufacturing economies, this machine can be produced and sold at an attractively low price compared with previous comparable models.

For detailed information, write for Bulletin DH-102-C.

CAMPBELL MACHINE DIVISION
American Chain & Cable
941 Connecticut Avenue
Bridgeport 2, Conn.

▲ For more details circle **NED-3461** on enclosed inquiry slip ▲

Industry uses more CROSBY CLIPS than all other drop forged wire rope fasteners combined!



Extra strength, thanks to drop forging and finest steel. Extra durability, thanks to hot dip galvanizing. You're SAFE, with genuine Crosby Clips. Sizes for 1/8" to 3" wire rope. Distributors everywhere. Made only by AMERICAN HOIST & DERRICK CO., St. Paul 1, Minnesota.

▲ For more details circle NED-3462 on enclosed inquiry slip ▲

ELECTRIC and ELECTRIC-EYE COUNTING

JUST OFF THE PRESS— 16-page illustrated bulletin. Describes Modern Methods of Count Controlling Production Packaging, Deliveries, Batch Counting; Remote Production Counting. Send for your copy.

Tremendous aid to improved efficiency

WIZARD Electric Counters count anything that will operate a switch, photo-electric unit, or other circuit-breaking device. You can locate them at any distance from the actual source of count. Operations thruout the plant can be counted in Production Office.

Models for every purpose. Just tell us what you want to do.

Production Instrument Company
700-12 W. JACKSON BLVD., CHICAGO 6, ILL.
Representatives in Principal Cities

▲ For more details circle NED-3463 on enclosed inquiry slip ▲

8 ways better than old-fashioned friction tape

New Polyken **No. 163 ELECTRICAL TAPE**

Exceeds A.S.T.M. Friction Tape specifications these eight ways: 1. Thinner, but just as strong. 2. Higher dielectric strength. 3. Better moisture barrier. 4. Sticks quicker (higher "tack"). 5. Cleaner—doesn't collect grime. 6. Unwinds easily. 7. Doesn't fray. 8. Sticks firmly to any clean surface.

Costs no more than the friction tape you're probably using. Ask your POLYKEN distributor about No. 163 today, or write for free folder "Test It Yourself!" Address POLYKEN, Dept. 10-5, 222 W. Adams St., Chicago 6.

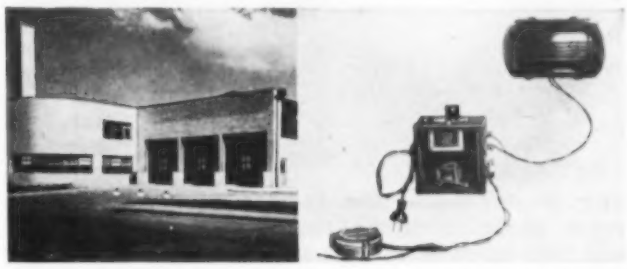
Another FIRST ... *by*

Polyken® INDUSTRIAL TAPE
DEPARTMENT OF BAUER & BLACK
DIVISION OF THE KENDALL COMPANY
222 W. ADAMS ST., CHICAGO 6

▲ For more details circle NED-3464 on enclosed inquiry slip ▲

MAGNETIC SWITCH opens doors in industrial plants

Suitable for many signalling and operating functions in industrial plants, this magnetic switch is designed so that car or truck passing over it actuates bell or other

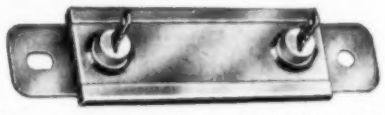


signal. It acts also as warning signal to pedestrians crossing drives, and snow, ice or water will not effect its operation. It can be used as trigger to open doors automatically while driver sits at wheel of vehicle. Made by **Nu-Way Signal Co.**, 4153 W. Division St., Chicago 51, Ill.

▲ For more details circle NED-3465 on enclosed inquiry slip ▲

WIRE-WOUND RESISTOR is small flat metal encased unit

Specifically designed for business machines and other similar equipment, type 265A resistor is space wound, has mica insulation and is encased in aluminum for mounting flat against metal chassis to assure maximum heat dissipation. At 175° C



continuous operating temperature, unit is rated 7½ w in still air and 15 w when mounted on metal chassis. When mounted flat against heavy metal plate, resistor has safely dissipated as much as 35 w over long periods. Made by **Shallcross Mfg. Co.**, 10-F Jackson Ave., Collingdale, Pa.

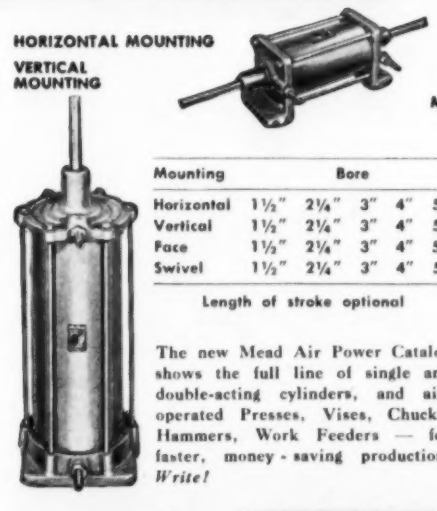
▲ For more details circle NED-3466 on enclosed inquiry slip ▲

STENCIL MARKER can be carried safely in pocket

Incorporating Capac self-filling self-feeding principle, reservoir type 59 stencil marker controls ink flow without use of moving parts and employs capillary-action system to fill without removing head. Unit will not leak, flood or sweat. Screw-on head prevents drying when not in use. Constructed of heavy machined aluminum, marker has 1½-in. diameter and 8-in. overall length. Three interchangeable nib-heads are supplied: round felt, wedge felt and round bristle. Marker holds up to 3 oz stencil ink of any color. Made by **Speedry Products, Inc.**, Industrial Div., 19-H Rector St., New York 6, N. Y.

▲ For more details circle NED-3467 on enclosed inquiry slip ▲

***DOUBLE-ACTION* AIR CYLINDERS**



Mounting	Bore				
Horizontal	1½"	2¼"	3"	4"	5"
Vertical	1½"	2¼"	3"	4"	5"
Face	1½"	2¼"	3"	4"	5"
Swivel	1½"	2¼"	3"	4"	5"

Length of stroke optional

The new Mead Air Power Catalog shows the full line of single and double-acting cylinders, and air-operated Presses, Vises, Chucks, Hammers, Work Feeders — for faster, money-saving production. *Write!*

MEAD SPECIALTIES COMPANY
4114 NO. KNOX AVE. DEPT. N-50-A, CHICAGO 41, ILL.

▲ For more details circle NED-3468 on enclosed inquiry slip ▲

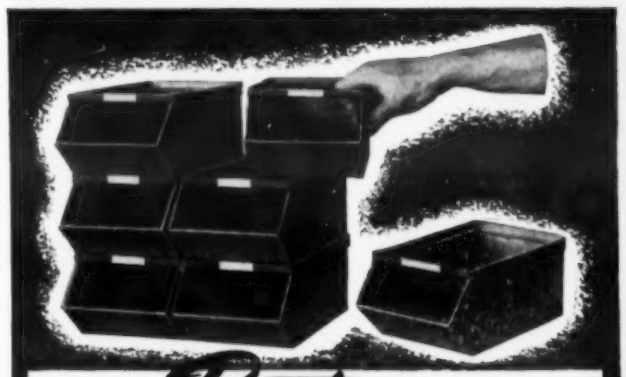
RELIANCE V★S DRIVE **NEW!** for Thousands of Additional Applications of **ADJUSTABLE-SPEEDS from A-C. CIRCUITS**

● Here is a simple, space-saving, low-cost All-electric Adjustable-speed Drive utilizing the same fundamental principles employed in the design of thousands of Reliance V★S Drives for over 11 years. Machine builder or machine user, it will pay you to have all the facts on this important extension of the V★S line. Write today for Bulletin D-2101.

RELIANCE ELECTRIC & ENGINEERING COMPANY
1082 IVANHOE ROAD CLEVELAND 10, OHIO

Sales Offices in Principal Cities

▲ For more details circle NED-3469 on enclosed inquiry slip ▲



Parts...

★ Where You Want Them . . .
★ When You Want Them

You'll save time, space and labor handling parts and material when you use these patented STACKBINS. STACKBINS keep parts instantly accessible—eliminate waste hand motions—stack compactly to form units of exactly the right shape and capacity—make order filling or assembly work faster, easier, more efficient. Heavy steel, all-welded construction.

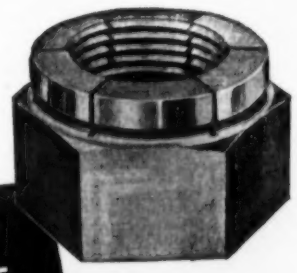
MOST SIZES IN STOCK

Manufactured and sold in Canada exclusively by Wickware-Stackbin, Ltd., Ottawa.

Write Stackbin Corp., 1081 Main St., Pawtucket, R. I.

STACKBIN SYSTEM "Stacked and Still Accessible"

▲ For more details circle NED-3470 on enclosed inquiry slip ▲



. . . WON'T SHAKE LOOSE

FLEXLOC

ONE-PIECE SELF-LOCKING NUTS

The FLEXLOC is one-piece, all-metal . . . has ample tensile and long life. It is a Stop and Lock-Nut that can be reused many times. Its "chuck-like", resilient locking segments lock the FLEXLOC securely in any position on a threaded member. It positively "won't shake loose", yet can be removed easily with a wrench.

Write for Catalog 619, it's full of Information.

SPS STANDARD PRESSED STEEL CO.
JENKINTOWN 24, PENNSYLVANIA

▲ For more details circle NED-3471 on enclosed inquiry slip ▲

HANNIFIN

Everything you want in **CYLINDERS**

Here's help for busy machine designers and plant operating engineers. You can save time and money right from the start by checking with Hannifin on all of your hydraulic and pneumatic cylinder requirements. *The Hannifin line is complete!*

Hannifin sets the standard for quality! Perfected, tested designs; finest quality construction. Test-proven packings! Finest seals! Proper finishes! Interchangeable parts! Cylinders "Tru-Bored" and honed; rods ground and polished. For complete information, see your local Hannifin representative, or write.

HANNIFIN CORPORATION
1127 S. Kilbourn Ave.
Chicago 24, Ill.

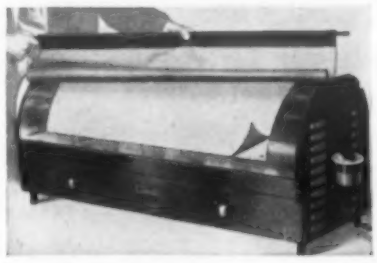
Helpful BULLETINS

Bulletin 110 (Left) "HANNIFIN HYDRAULIC CYLINDERS"

Bulletin 210 (Right) "HANNIFIN PNEUMATIC CYLINDERS"

For more details circle NED-3473 on enclosed inquiry slip

REPRODUCTION EQUIPMENT whiteprints 24 x 36-in. sheets



Employing diazo process to produce positive-reading prints, Spee-Dee whiteprinter delivers accurate black-on-white or blue-on-white positive prints from transparencies or opaque originals. Any written, printed or photographed matter can be reproduced by this equipment. Sturdily constructed machine operates from standard 110-v ac outlet and is portable. Weighing 58 lb, unit measures 38 in. wide, 16 in. deep and 15½ in. high. Light source is four 250-w and two 500-w bulbs. Made by **Peck & Harvey,** 5736 N. Western Ave., Chicago 45, Ill.

For more details circle NED-3475 on enclosed inquiry slip

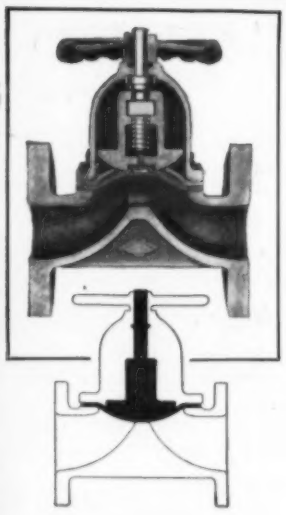
INDUSTRIAL TELEVISION SYSTEM facilitates remote viewing of any action at distances up to 500 ft

Usable throughout industry, television system utilizes small 8-lb camera incorporating only three tubes, including Vidicon pickup tube, and suitcase-size control box combining power supply, synchronous generator, amplifying and deflection equipment and 7-in. kinescope monitor. Entire system operates on 110-v 60-cycle ac and consumes 375 w. Signals are transmitted from camera to viewer over coaxial-cable closed circuit.

Possible applications include monitoring of operations from distance, especially where there is danger to personnel; enabling many persons to view given procedure or activity; and supervising or co-ordinating number of operations from central position. System can be used to scrutinize passes, security papers and similar documents from remote point so that number of restricted areas can be guarded by single officer. Progress of multiple long-time tests at different places can be followed from one central point, and phenomena associated with nuclear reactions can be observed from safe position. Camera facilitates inspection of underside or interior of products and materials and many relatively inaccessible industrial areas.

Other possibilities include comparison of television image with standard either optically or electrically and use of system to provide signals to motivate automatic controls or indicators. Still photography can make permanent records from screen of monitor, while motion picture photography can be used to record high speed data for later examination. Ability of television to detect infrared and ultraviolet radiations offers further possibilities for industrial applications. Made by **Radio Corp. of America,** RCA Victor Div., Dept. 200, Scientific Instruments Section, Camden, N. J.

For more details circle NED-3476 on enclosed inquiry slip



If you need a diaphragm valve . . . you need all the advantages of diaphragm closing . . . you need

GRINNELL-SAUNDERS DIAPHRAGM VALVES

Diaphragm gives leak-tight closure against grit, scale, solid matter . . . even when trapped on the weir. The resilience of the diaphragm, plus the large area of contact, gives leak-tight closure against pressure or vacuum.

Diaphragm lifts high for streamlined flow in either direction . . . Smooth, streamlined passage, without pockets, prevents trapping of sludge and reduces frictional resistance to a minimum—irrespective of direction of fluid flow. No disc holder in fluid stream. Self-draining when installed with the spindle at 15 degrees above the horizontal position.

Diaphragm absolutely isolates working parts from fluid . . . No perforation or puncture in the diaphragm where fluid or gas can possible leak by the valve spindle. No sticking, clogging or corroding of working parts. Valve lubricant cannot contaminate the fluid in the line.

Diaphragm, body and lining materials to meet particular conditions . . . Bodies stocked in cast iron, malleable iron, stainless steel, bronze and aluminum: other materials on special orders. Valve bodies lined with lead, glass, natural rubber or neoprene. Diaphragm materials of natural rubber or synthetics. Working pressure, 150 lbs.; maximum temperature, 180°F.

Diaphragm is only part that normally wears and needs replacement . . . Compressor and finger plate combine to support the diaphragm in all positions. The diaphragm can be replaced quickly without removing valve from line. No refacing or reseating. No disc holder to require tightening or replacing. No packing glands to demand attention.

Write for Grinnell-Saunders Diaphragm Valve Catalog 4-S

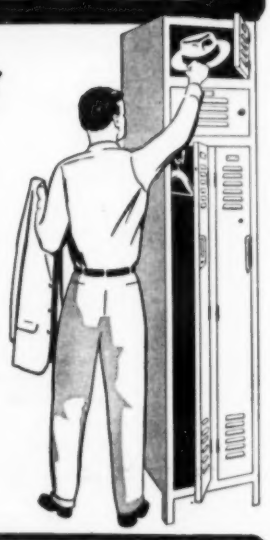
GRINNELL

GRINNELL COMPANY, INC., Providence 1, R. I. Branch warehouses: Atlanta • Buffalo • Charlotte • Chicago • Cleveland • Cranston • Fresno Kansas City • Houston • Long Beach • Los Angeles • Milwaukee Minneapolis • New York • Oakland • Philadelphia • Pocatello Sacramento • St. Louis • St. Paul • San Francisco • Seattle • Spokane

For more details circle NED-3474 on enclosed inquiry slip

END LOCKER ROOM "EVILS"

THE Penco 1869 WAY



The Penco 2-Person Locker eliminates crowding, discomfort, petty thefts that irk employees. A large, *private* locker for each worker in *half the usual area!* This morale-building space-saver is just one of 50 Penco Lockers. Write for prices, catalog, installation data for your *specific* needs.

Insist on PENCO Quality

PENN METAL Corporation of Penna.
Steel Lockers, Cabinets, Shelving
82 Oregon Ave., Phila. 48, Pa.
FOUNDED 1869 *by L. Lewis Sagendorph*

For more details circle NED-3477 on enclosed inquiry slip

AMERICAN WELDING "Controlled Technique" is more economical for YOU!

Rings, bands and weldments, fabricated by American Welding "Controlled Technique" will *save you money!*

All types of resistance and fusion welding applicable to ferrous and non-ferrous metals and alloys. Heat-treating and machining are available.

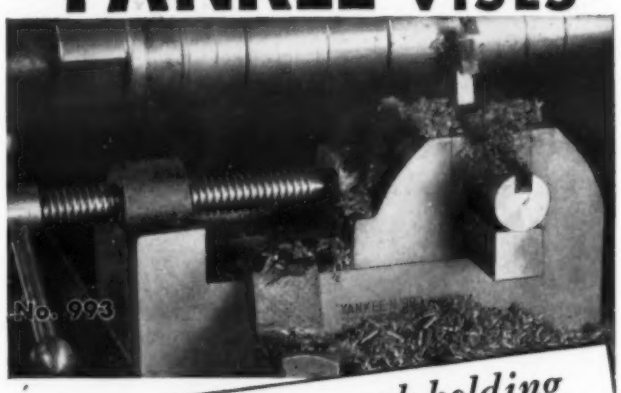
It's easier and more economical for *you* to *specify* American Welding. Over 32 years' experience is yours for the asking. Send your requirements for prompt quotation.

SEND FOR 16 PAGE CATALOG

THE AMERICAN WELDING & MANUFACTURING CO.
170 DIETZ ROAD • WARREN, OHIO

For more details circle NED-3478 on enclosed inquiry slip

"YANKEE" VISES



for accurate, work holding **START-TO-FINISH**

Every operation is lined up square and true in a "Yankee" Vise. Carefully machined . . . top, bottom, sides and front end to give accurate alignment in any position. Easily made into jig. V-grooved hardened steel block furnished with each "Yankee" Vise. Four sizes . . . 1½", 2", 2¾" and 4" jaw widths. Write for "Yankee" Tool Book.

YANKEE TOOLS NOW PART OF STANLEY THE TOOL BOX OF THE WORLD

NORTH BROS. MFG. CO.
Philadelphia 33, Pa.

For more details circle NED-3479 on enclosed inquiry slip

INSTANT, LOW-COST WAY TO

Control Machine Speed

THIS NEW SHEAVE is the *lowest-cost* way of controlling speeds while machines are running. One sheave does everything *automatically.* Speed changes from 1½ to 60 hp. 100% range; 2 to 1 ratio.

Can this new sheave show *you* the way to increase production by setting operating speeds at exactly the right tempo for highest production? How to improve quality, or change to new materials, all at the twist of a wrist? For complete facts and figures on how the new *Vari-Pitch* Automatic Sheave can save you money, call your A-C Authorized Dealer or Sales Office or write for Bulletin 20B7223. A-2928

Vari-Pitch is an Allis-Chalmers trademark.

ALLIS-CHALMERS, 918A SO. 70 ST.
MILWAUKEE, WIS.

ALLIS-CHALMERS

For more details circle NED-3480 on enclosed inquiry slip

CUT WASHROOM UPKEEP

With these exclusive Sperzel features

- **OPEN FRONT AND BACK DESIGN . . cuts cleaning time to a minimum. No germ collecting crevices . . always sanitary.**
- **SELF-RAISING . . seat remains upright when not in use with bowl serving as urinal. Seat stays clean and dry.**
- **DURABLE . . . double strength plastic pads are shatter-proof, fire-proof. Assure long life [illegible] maintenance.**
- **SOLID PLASTIC . . . strong and durable. Plastic covered hinge is moisture proof, dirt free.**

WRITE NOW for catalog for full details on model LP-20 (illus.), model LP-40 with self-sustaining hinge, and a complete line of conventional models.

DEPT. NE.

THE SPERZEL COMPANY

All Sperzel Seats fit Standard Bowls

123 14th AVENUE S. • MINNEAPOLIS, MINN.

For more details circle **NED-3481** on enclosed inquiry slip

Restore Battered and Rusted Threads

Flats and nicks eliminated—even heavily corroded threads quickly cleaned, so that nuts turn off and on freely! Think of the time and money saved! No more drilling or hack-sawing to remove damaged bolts and studs. Just slip on your Buckingham Thread Cleaner, tighten the jaws, then turn!

Buckingham Thread Cleaners follow the pitch of any thread with root diameter from ¼" to 4". No need to insert or change dies. Cutting jaws adjust easily to proper size on the threads. Jaws should be placed below the damaged area and then turned off through that section. See your nearest Buckingham dealer—or write us today for further information.

THREE SIZES	Price
6103 — ¼" to 1" root diam.	$ 6.00
6104 — 1" to 2 9/16" root diam.	11.00
6106 — 2" to 4" root diam.	25.00
6204 — 1" to 2 9/16" root diam.	19.00

BUCKINGHAM MANUFACTURING CO., INC.
65-67 Travis Street Binghamton, N. Y.

For more details circle **NED-3482** on enclosed inquiry slip

More AIR or VACUUM in LESS SPACE!

MOTOAIR* PUMP

Provides accessory power for paper-handling, lifting and conveying light sheets, etc.

Used for many other HEAVIER jobs, such as sumps, blowers, vacuum frames, packaging, evacuating air or liquids, etc.

COMPACT! Scarcely larger than a motor, and built integral to its own power! Self-lubricating, and designed to operate without BELTS, GEARS, EXTENDED DRIVES or HINGED BLADES *built to compensate for its own wear!*

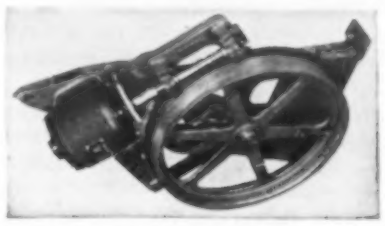
Write for Details!

*Reg. U. S. Pat Off. 810

NEW JERSEY MACHINE CORPORATION
1530 Willow Ave. • Hoboken, N. J.
Factory offices in Chicago, Cincinnati, Los Angeles

For more details circle **NED-3483** on enclosed inquiry slip

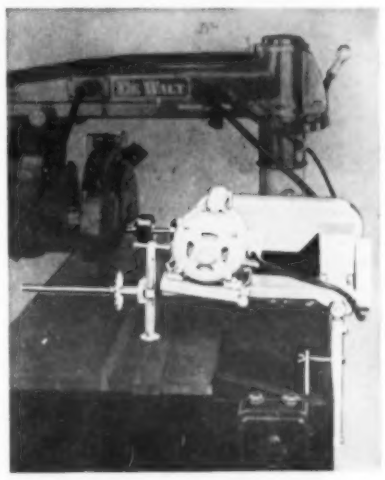
ELECTRIC DOOR OPERATOR is equipped with automatic switch



Designed for overhead and single sliding or double parting doors, Y-M Chief improved direct gear drive electric door operator is furnished with safety switch which breaks motor contacts when closing doors touch any obstruction. Units are supplied with ball bearing type electric motors of capacities sufficient to handle normal door requirements up to 200 sq ft. Three-button switch provides direct control for starting, reversing and stopping. Overhead installation can be made with minimum headroom clearance of 5 in.; and for sliding and double parting doors, device is located on wall directly above entrance. Made by **Yoder-Morris, Inc.**, 1066 E. 61st St., Cleveland 3, O.

For more details circle **NED-3484** on enclosed inquiry slip

POWER SAW FEEDER for radial arm saw is portable



Attachable to almost any radial arm saw and many under-table saws, this power rip feed attachment can be installed quickly with two mounting brackets supplied with unit. It enables operator to use saw not only for straight ripping but also for bevel ripping, molding, power feed shaping, ploughing and rabbeting. Unit is equipped with adjustable feed rollers for feeding material into cutter and taking cut material away. Belt drive of device can be adjusted to feed material into cutter at speeds up to 120 fpm. Made by **DeWalt Inc.**, Dept. P, 201 Martha Ave., Lancaster, Pa.

For more details circle **NED-3485** on enclosed inquiry slip

SHUNT CONNECTION for carbon brushes is permanent

Thorough testing has indicated that this Statite shunt connection for carbon brushes cannot be pulled or jarred loose from brush. It will maintain original low millivolt drop, will not oxidize and is unaffected by extreme operating temperatures. On basis of service performance, it can be classified as permanent type. Connection is available in wide range of brush sizes. Made by **United States Graphite Co.**, 1620 Holland St., Saginaw, Mich.

For more details circle **NED-3486** on enclosed inquiry slip

ACROMARK MEANS "ACCURATE MARKING"

FILL DESIGN AND LETTERING WITH ENAMEL MECHANICALLY

ASK FOR— THE **ACROPRINTER** Reg. U. S. Pat. Off.

MADE IN SEVERAL SIZES
MANUALLY OR POWER OPERATED
CONSTANTLY IMPROVED

The ACROMARK Company

WRITE TO—7-11 MORRELL ST., ELIZABETH 4, N. J.
"THE ORIGINAL MARKING SPECIALISTS"

For more details circle **NED-3487** on enclosed inquiry slip

At your Service ON WIRE AND METAL ASSEMBLIES

CAMBRIDGE offers the most modern fabricating facilities plus years of engineering experience . . . to make any wire and sheet metal tray, rack, basket, fixture, crate, screen or other fabrication you need to reduce costs and speed-up material handling processing and treating. The fact that Cambridge is equipped to perform every step of the designing and manufacturing assures you of the famous Cambridge quality and service on all items.

Your Cambridge field engineer can recommend the right design and construction for washing, spraying, dipping and similar operations.

Or write direct for information on the complete Cambridge facilities. Send for this FREE illustrated folder describing Cambridge wire baskets and specialties.

Cambridge Wire Cloth Co.

Wire cloth in rolls. | Any metal or alloy, mesh or weave.

DEPARTMENT C
CAMBRIDGE 5, MD.

OFFICES IN PRINCIPAL INDUSTRIAL CITIES
See "Baskets, Wire" in your Classified Telephone Directory

For more details circle **NED-3488** on enclosed inquiry slip

HANSEN TACKER-

1001 USES

HOUSE Trailers made by General Coach Co., Marlette, Mich., needed neatly, snugly fastened screens—on a production basis. Hansen one-hand Tacker solved the problem.

Front-end prongs hook into screen and stretch it into place. Tacker is held in one hand and drives staples, securely fastening screen.

Result—more screens fastened in half the time and with 50% saving in materials. What is your problem? Submit details, with sample or sketch.

A.L. HANSEN MFG. CO.
5164 RAVENSWOOD AVE.
CHICAGO 40, ILL.

For more details circle **NED-3489** on enclosed inquiry slip

SMOOTH AS A GUN BARREL!

SUPER FINISH BORE ON UNIVERSAL DRILL BUSHINGS LENGTHENS BUSHING LIFE, REDUCES TOOL BREAKAGE

To super finish I. D., add such plus features as blended radius, knurled head, I. D. Break, chamfered O. D., and you have the reasons why Universal Drill Bushings are specified by many of America's leading manufacturers. Universal provides extra prompt sectional delivery and information from warehouses at 1060 Broad Street, Newark, N. J., and 5035 Sixth Ave., Kenosha, Wis. Write, call or wire today!

UNIVERSAL ENGINEERING COMPANY
FRANKENMUTH 5, MICHIGAN

For more details circle **NED-3490** on enclosed inquiry slip

THREE BIG ADVANTAGES in a HOT WATER SYSTEM

• **REQUIRES LITTLE SPACE**
Takes less than a third the space required by the conventional tank hot water system.

• **LOW COST INSTALLATION**
No expensive tank, no laborious excavation, no complicated piping.

• **BETTER PERFORMANCE**
Available in sizes for continuous flow of 6 to 300 gallons per minute. No maintenance . . . all waterways non-corroding bronze or copper.

Give yourself the benefit of these big advantages in your hot water system — by installing a General Instantaneous Water Heater.

The General Instantaneous Water Heater is a compact unit which can be easily tapped into pipe lines at strategic spots or as boosters on storage tank systems. Heated with steam through the shell.

Write for Catalog 19.
General Fittings Co.,
Dept. I, 123 Georgia Ave.,
Providence 5, R. I.

GENERAL FITTINGS CO.
TANKLESS AND INDIRECT WATER HEATERS AND HEATING SPECIALTIES

▲ For more details circle NED-3491 on enclosed inquiry slip ▲

YOU GET *Accuracy*

WHEN YOU SPECIFY EX-CELL-O DRILL JIG **BUSHINGS**

XLO

46—4

For years Ex-Cell-O has been known by American industry as headquarters for precision-made bushings . . . Ex-Cell-O carries one of the largest and most varied stock of drill jig bushings available in the world.

EX-CELL-O CORPORATION • DETROIT 32, MICHIGAN

▲ For more details circle NED-3492 on enclosed inquiry slip ▲

One power failure may cost you more than an ONAN Standby ELECTRIC PLANT!

Model 10EL
10,000 Watts

Materials in process may spoil, man hours are wasted, lives may be endangered when electric power is interrupted. Assure a constant power supply with an Onan Emergency Electric Plant. Takes over automatically when current is cut off, stops itself when current is restored. Will run continuously if necessary. Compact, self-contained. Shipped complete. Easy to install. Standby Plants, 1,000 to 75,000 watts A.C. Powered by natural gas, gasoline or with Diesel engines.

Write for FREE Engineering Service on your standby electric problem.

Onan PRODUCTS

D. W. ONAN & SONS INC.
6448 ROYALSTON AVE. • MINNEAPOLIS 5, MINN.

▲ For more details circle NED-3493 on enclosed inquiry slip ▲

FLEXIBLE COUPLING
in sizes for 1/6 to 40-hp motors

Machined from solid steel or malleable castings, flexible couplings are fitted with neoprene insert for strength, resiliency and shock absorbing qualities. These inserts are oil proof and greaseproof as well as heat resistant. Couplings are available in six sizes having maximum bores from ½ to 2⅝ in. Three smaller sizes have fixed bores, and larger sizes are made with interchangeable bushings mounted either on inside or on outside. Latter two types can be used in combination. Made by **Browning Mfg. Co.**, 1940 Browning Dr., Maysville, Ky.

▲ For more details circle NED-3494 on enclosed inquiry slip ▲

ELECTRONIC POTENTIOMETER
suitable for precise pH measurements

Capable of making precise potential measurements on high impedance electrochemical cells or electronic tubes and circuits, model P-2 precision electronic potentiometer can measure potentials from 0 to 3 v in three ranges. Current flow in measured circuit is minute, enabling instrument to be used in conjunction with glass electrodes. Built-in standard cell combined with 0.1-per cent potentiometer and dual range dial provides accuracy of plus or minus 1 millivolt. When used for hydrogen ion concentration measurements, instrument has comparative accuracy of 0.05-pH units. Made by **Southwestern Industrial Electronic Co.**, Dept. NE-P2, P.O. Box 13058, Houston 19, Texas.

▲ For more details circle NED-3495 on enclosed inquiry slip ▲

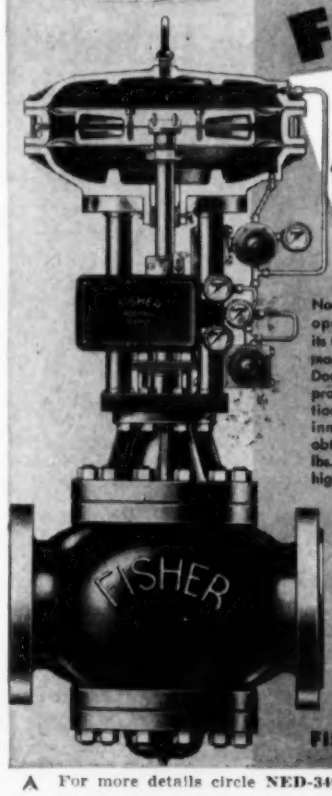
CABLE FAULT LOCATOR
has 2.5-mfd discharge capacitance

Rated up to 20 kv and intended for use on all cable up to 15 kv, model 2-2 Impulse Cable Fault Locator is independent of type of fault or its apparent resistance and in operation depends only on impulse voltage required to break down fault. Set requires about 500 w of 115-v dc for proof testing on all types of electrical equipment. Applications for this instrument include locating faults on lead covered cable installed in ducts, aerial and buried cable, and various utility and industrial testing operations. Made by **James G. Biddle Co.**, Dept. No. 31-35-20, 1316 Arch St., Philadelphia 7, Pa.

▲ For more details circle NED-3496 on enclosed inquiry slip ▲

A GIANT AMONG GIANTS

FISHER *AMT DIAPHRAGM MOTOR VALVES



Now, stem thrust power up to 5000 lbs. for opening or closing at any point within its travel range. Full pneumatic performance. No springs, no levers or weights. Double diaphragm avoids backlash effects probable with single diaphragm construction. Fisher Positrol accurately positions inner valve. In action, performance obtained with operating pressure up to 30 lbs. Designed for fast stroke action and high stability.

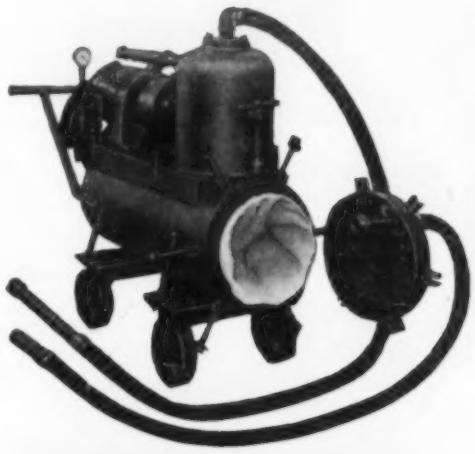
Why? Gives extreme power to actuate large single-seated valves for tight shut-off on large pressure drops up to 5000 pounds unbalanced forces.

*AMT
"ANSWER ME TWICE" IN ACTION, PRESSURE ADDED TO ONE DIAPHRAGM, SUBTRACTED FROM OTHER.

Write today for Bulletin 5700
FISHER GOVERNOR CO.
MARSHALLTOWN, IOWA

▲ For more details circle NED-3497 on enclosed inquiry slip ▲

Keep Cutting Oils and Coolants



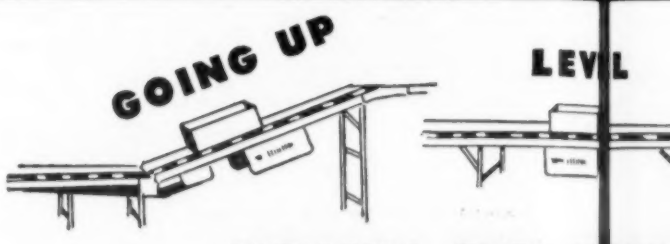
Houdaille Mobile works while

New Houdaille Mobile coolants and cutting machines . . . keeps su costs. One m can an entire ba ry of

Write TODAY for tion on the line equipment f filtra and handling of me and coolants

HONAN-CR

▲ For more details circle NE 8 on e



YOU'LL DO IT BE

MATHEWS CONVEYERS

● Have you a conveying problem? Movi packaged materials up, down or level? Whatever might be, there is Mathews equipment available to sol it for you, and to save you money and time.

Mathews standardized Belt Conveyers are easily erected. And, if you need Portable Belt Conveyers, or sections of Roller and Wheel Conveyers, Mathews supplies them from its complete line. Engineered systems are given immediate attention by Mathews Engineers.

Send for problem-solving bulletins toda

MATHEWS C

GENERAL OFFICES *Mathews Conve Compa*
PACIFIC COAST DIVISION *Mathews Co yer Con*
CANADIAN DIVISION *Mathews Co r Com*

Engineering Offices or Sales Agencies in incip

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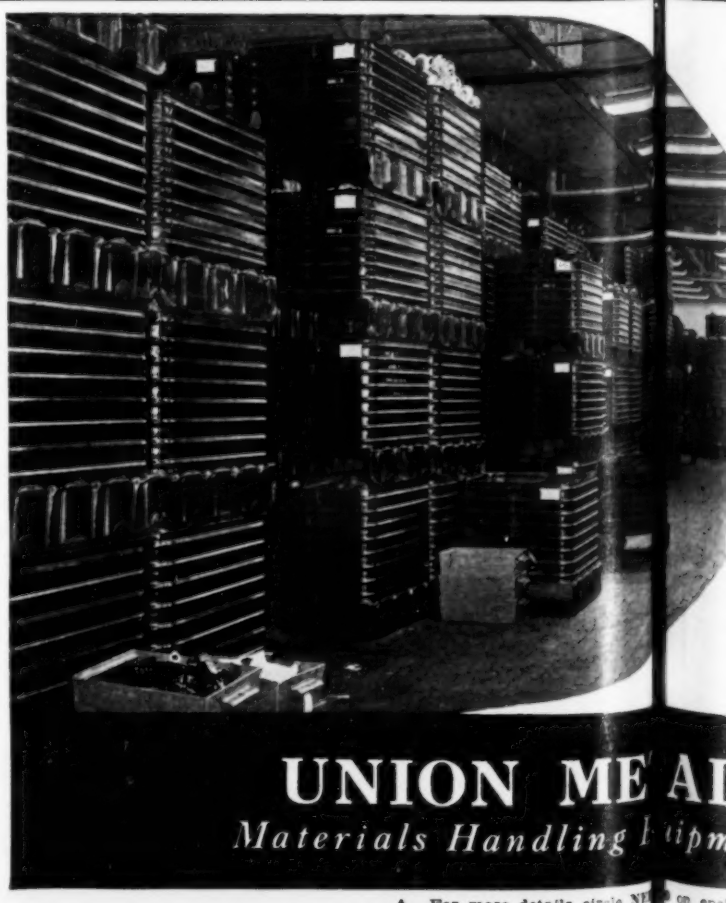


UNION ME AI

Materials Handling Equipm

▲ For more details circle NE on enc

ts Clean without DOWN-TIME

aille*

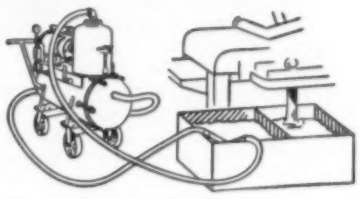
ile Coolant Filter

ks while production continues

uda Mobile Coolant Filter provides clarification for and cutting oils without shutting down metal working s... eps sumps clean . . . saves time . . . cuts maintenance

ne m can efficiently service e ba ry of machine tools.

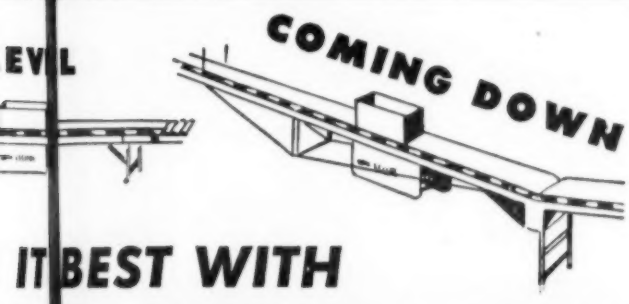
TOD Y for complete informa- the l line of Honan-Crane ent f filtration, purification ndling of metal working oils olants



A. CRANE CORPORATION
405 WABASH AVENUE · LEBANON, INDIANA
A Subsidiary of
HOUDAILLE-HERSHEY CORP.
*Pronounced Hoo-Dye

le NED 8 on enclosed inquiry slip

EVEL



IT BEST WITH YERS

Movin pack- tever i might to sol it for

rs are easily Conve rs, or Mathe s sup- neered stems ews Engineers. s toda

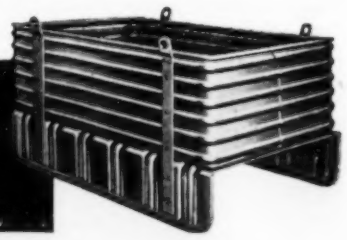
WS CONVEYERS
Conve Company . . . . . Ellwood City, Pennsylvania
ews Co yer Company West Coast . . San Carlos, California
ws Co er Company, Ltd. . . . . Port Hope, Ontario
es in incipal American and Canadian Cities
.1: NED 9 on enclosed inquiry slip

Put non-productive overhead to work!

LOOK how efficiently, how safely Union Metal Steel Tiering Skid Boxes put "overhead" to work as useful, valuable space. And note the compactness and uniformity of that rafter-high tiering . . . with aisle-way walls as "clean" as a hound's tooth.

The Union Metal materials handling family includes steel skids, pallets and boxes in an almost endless range of types and combinations for handling virtually anything from bags of salt to heavy iron castings. They help make the *most* of flow and storage space . . . and do it with peak speed, ease and safety.

For complete information, write The Union Metal Manufacturing Company, Canton 5, Ohio.



ME AL
ng Equipment

circle NE on enclosed inquiry slip

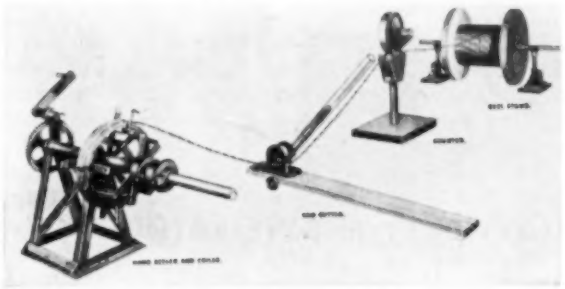
ADJUSTABLE REEL
centers coiled stock automatically

Few turns of wheel of Westlen reel for handling flat and wire coil stock of brass, copper or aluminum automatically adjusts posts to coil diameter. Adjustable four-arm spider clamps over stock to prevent kinking or crossing while unwinding. Arms are adjustable to height of coils. Position arm allows quick conversion to horizontal or vertical position and adjusts height of reel. Illustrated model has capacity of 300 lb, and 500-lb type is obtainable also. Made by **Ruleta Co.**, 27 E. Warren St., New York 7, N. Y.

▲ For more details circle **NED-3501** on enclosed inquiry slip ▲

WIRE HANDLING ASSEMBLY
consists of four portable components

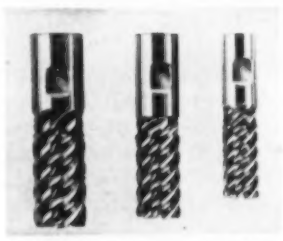
Suitable for industrial concerns that handle medium or small amounts of wire rope, this wire handling assembly is portable yet sturdy and accurate. It embodies hand



reeler and coiler with several gear ratios, cam type cutter that accommodates wire up to 1 in., accurate footage counter and reel stand having two sturdy screw jacks, two reel bushings and large axle. Made by **Sherman & Reilly, Inc.**, Broad & First Sts., Chattanooga, Tenn.

▲ For more details circle **NED-3502** on enclosed inquiry slip ▲

END MILLS
permit deep cuts at high speeds

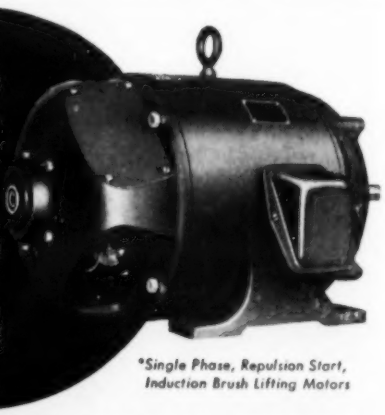


Rotary broaching technique is applied to milling operations by these Shearcutter end mills. Since helical cutting edge has extremely large angle compared to axis of rotation, shearing action is performed on metal being removed. As shown in illustration, flats are provided on straight shank type so that set screws can be used to lock tool in position to resist end thrust developed by shearing action of tool.

Tools are high speed steel, ground from solid and hardened to 63 to 65 Rockwell C. Since they have extremely deep counterbore on cutting edge, they can be resharpened many times on any tool and cutter grinder. Made by **Shearcut Tool Co.**, Dept. NED-3, P. O. Box 746, Reseda, Calif.

▲ For more details circle **NED-3503** on enclosed inquiry slip ▲

FOR HARD TO START JOBS



*Single Phase, Repulsion Start, Induction Brush Lifting Motors

REQUIRING LOW STARTING CURRENT

SPECIFY Century TYPE RS* MOTORS

You will find that these rugged, dependable motors meet the operating characteristics of such equipment as refrigeration compressors, air compressors, stokers, reciprocating pumps, and other hard-to-start loads. Type RS* motors are available in sizes from ½ to 20 H.P., drip proof and splash proof.

Century builds electric motors in a wide range of types and kinds—in sizes from 1/20 to 400 H.P. Specify Century motors for all your electric power requirements.

-672R

Century C MOTORS
CENTURY ELECTRIC CO.
1806 PINE ST., ST. LOUIS 3, MISSOURI
Offices and Stock Points in Principal Cities

▲ For more details circle **NED-3504** on enclosed inquiry slip ▲

This low-cost, portable pump will MOTORIZE your hydraulic equipment

Eliminate costly hand pumping: This electrically-driven pump serves one or more rams. Production zooms — sometimes it triples. Great on presses, pipe benders, etc. Write for catalog. Buy from leading supply houses.

Blackhawk Mfg. Co., Dept. P1450
Milwaukee 1, Wis.

- P-182 Pump (above) combines motor, valves, pump and oil reservoir in one compact unit.
- 10,000 p.s.i. hydraulic pressure. Weight—only 84 lbs.
- Low cost — only $264.

Price subject to change without notice.

BLACKHAWK

▲ For more details circle **NED-3505** on enclosed inquiry slip ▲

No More Guessing . . . accurate Torque Control

No More Guessing

Friction
Adjustments
Moving Parts
Fragile Mechanisms

Accuracy — Permanently Accurate — Closer Product Quality Control
Tool Life—Lower Tool Cost
Speed — Lower Assembly Cost Per Unit

How tight threaded fasteners are. Use a Sturtevant permanently accurate torque wrench to obtain product quality control and thus insure field performance and product reputation. Write for Bulletin—SW22

P.A. STURTEVANT CO.
ADDISON QUALITY ILLINOIS

▲ For more details circle **NED-3506** on enclosed inquiry slip ▲

PORTELVATOR
THE HANDY HAMILTON PORTABLE ELEVATING TABLE

Mechanical muscles for heavy lifts are cheaper 7 ways than manpower

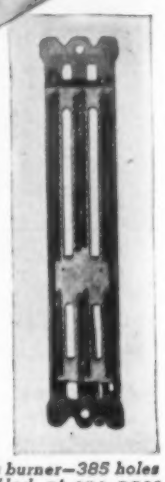
STRONG AS AN ELEPHANT

WRITE FOR BULLETIN P-50

THE Hamilton TOOL COMPANY
901 HANOVER STREET • HAMILTON • OHIO • U • S • A

▲ For more details circle **NED-3507** on enclosed inquiry slip ▲

SHOW US A JOB THAT Zagar GEARLESS DRILLHEADS WON'T DRILL!



Unlimited number of spindles! Zagar's gearless principle permits spacing of holes as close as twice drill diameter. Any pattern or arrangement. Any material—steel, glass, plastics, acoustical tile, etc. Zagar drillheads can be mounted on a conventional drill press or built as complete units. Up goes production, down comes cost! We'd like to see your part drawing, please.

Ask for Catalog N-5.

Gas burner—385 holes drilled at one pass on 5/16" centers.

ZAGAR TOOL, Inc., 24000 Lakeland Blvd., Cleveland 23

Zagar TOOLS FOR INDUSTRY and SPECIAL MACHINERY

For more details circle NED-3508 on enclosed inquiry slip

Kester Solder

Kester engineers, with over 100,000 different types and sizes of solder available, will specify the right flux-core solder for the job.

Easier to Use

Using the most suitable solder for each operation will enable solderers to work at top speed without sacrificing quality. No rejects.

Top Quality

Only newly mined grade A tin and virgin lead used. Fluxes—chemically correct.

KESTER SOLDER COMPANY
4201 Wrightwood Ave., Chicago 39
Newark, N. J. • Brantford, Canada

KESTER SOLDER

SEND FOR FREE MANUAL, "SOLDER and Soldering Technique"

For more details circle NED-3509 on enclosed inquiry slip

Increased Insulation
BETTER CONNECTIONS
JONES BARRIER TERMINAL STRIPS

Leakage path is increased—direct shorts from frayed terminal wires prevented by bakelite barriers placed between terminals. Binder screws and terminals brass, nickel-plated. Insulation, black molded bakelite. Finest construction. Add much to equipment's effect.

Jones Means Proven Quality

Illustrated: Screw Terminals—Screw and Solder Terminals—Screw Terminal above Panel with Solder Terminal below. Every type of connection.

Six series meet every requirement: No. 140, 5-40 screws; No. 141, 6-32 screws; No. 142, 8-32 screws; No. 150, 10-32 screws; No. 151, 12-32 screws; No. 152, ¼-28 screws.

Catalog No. 17 lists complete line of Barrier Strips, and other Jones Electrical Connecting Devices. Send for your copy.

Jones HOWARD B. JONES DIVISION
CINCH MANUFACTURING CORPORATION
CHICAGO 24, ILLINOIS
SUBSIDIARY OF UNITED-CARR FASTENER CORP.

For more details circle NED-3510 on enclosed inquiry slip

DRY FILM THICKNESS MEASUREMENT results can approach calculated theoretical thickness values

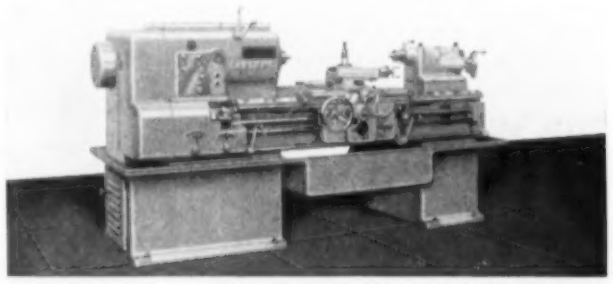
Thickness of dry films and thin sheet metals, foils, paper or plastic can be determined quickly by method using Interchemical direct reading thickness gage designed originally for wet film measurement. Attached dry films are measured visually by means of optical attachment to gage plus suitable light source. Film is stripped at two points ½-in. apart, and two outside gage wheels rest on these areas. Gage is rotated until its eccentric center wheel touches film. Light source permits observer to check point at which center wheel meets film and cuts off light. Direction of gage rotation can be reversed and average of two readings used for greater accuracy.

For measuring thin metal sheets, foils, paper and plastic films, feeler method is used. Gage rests on plane surface with center wheel at maximum reading. Narrow strip of sheet material is placed on plane surface between two outer wheels, and gage is rotated over strip until slight binding is noticed as strip is slid under measuring surface. Reading at that point gives thickness. Made by **Henry A. Gardner Laboratory, Inc.**, 4724 Elm St., Bethesda 14, Md.

For more details circle NED-3511 on enclosed inquiry slip

HEAVY-DUTY ENGINE LATHES 12, 14, 16 and 20-in. sizes offered

Line of heavy-duty engine lathes includes 20-in. size with 32 spindle speeds and three smaller sizes with 24 spindle speeds. Maximum speed of 1250 rpm is obtained



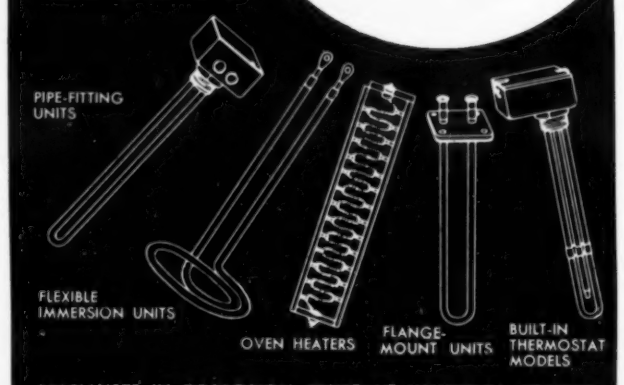
in 12 and 14-in. sizes which employ 7½-hp 1800-rpm motor. Speed of 1010 rpm is obtained in 16-in. model which is powered by 10 or 15-hp 1800-rpm motor, and 20-in. type has up to 800-rpm spindle speed with 15 or 20-hp 1200-rpm motor. Enclosed automatically-lubricated quick change box is employed. Sixty feed and thread changes are obtained through hardened alloy steel gears. Shafts are supported on antifriction bearings. Compensating V-way principle is utilized by bed which is fitted with replaceable hardened and ground steel ways in front and rear. Apron is of one-piece construction with positive jaw feed clutch and single lever controlling length and cross feed. Tailstock is of offset thrust-lock type. Made by **R. K. LeBlond Machine Tool Co.**, 1950 Edwards Rd., Cincinnati 8, O.

For more details circle NED-3512 on enclosed inquiry slip

THERMALINK Electric HEATING ELEMENTS

IMPROVE YOUR ELECTRICALLY HEATED PRODUCTS AND EQUIPMENT WITH THERMALINK ELEMENTS

OVER 600 STANDARD MODELS & TYPES



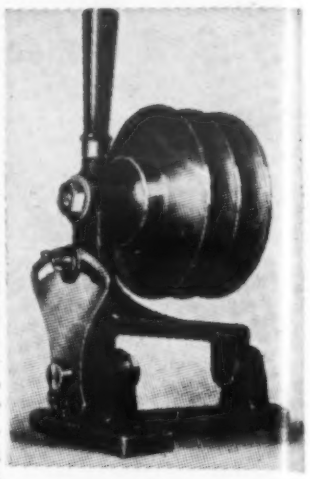
SPECIALISTS IN CORROSION-RESISTANT IMMERSION HEATERS

Write Dept. N for Literature

ELECTRO-THERM INC.
8024 GEORGIA AVE., SILVER SPRING, MD.

For more details circle NED-3513 on enclosed inquiry slip

VARIABLE SPEED CONTROL



Variable speed control of V-belt and equipment up to a maximum 3 to 1 ratio is provided by this single lever controlled unit. Mechanically simple in design and sturdily constructed to withstand hardest service, models 1A and 2A Toledo variable speed controls have numerous unique features including: plain, smooth pulley, eliminating noise and vibration; stepless speed variation up to full 3 to 1 ratio; minimum pulley diameters are increased to transmit greater H. P. over entire range; new pulley design providing cylindrical bottom for V-belts which fixes minimum pitch diameters, preventing damage to belts and giving increased torque; single arm support, for easy belt application; large shaft, oilite bearings and lubricant reservoir; sector plate serving as dial indicator and additional locking medium; unusually attractive prices.

Wheel assemblies can also be purchased without mountings for application on machines providing built-in speed control.

If you have a variable speed control problem, either on plant equipment or on machinery you build for sale, investigate the Toledo variable speed control . . . you'll be interested in its efficiency and low price. Ratios as high as 10 to 1 are available. **The Toledo Timer Co.**, 2224 Albion St., Toledo, O. Advt.

For more details circle NED-3514 on enclosed inquiry slip

Series "99"
Bassick all-purpose truck caster, 3 in.-8 in. sizes, heavy gauge steel.

How this caster tackles your Reducible 30%

You *can* save on materials-handling—the 30% of total cost still reducible—with Bassick Series "99" Truck Casters. Here's how they cut expenses: 1. Reduce labor cost . . . move parts and products quicker. 2. Reduce wear and tear on floors, trucks and dollies. Built for quiet, easy swiveling and long service life. Write for *free* folder on Bassick Series "99" Truck Casters. THE BASSICK COMPANY, Bridgeport 2, Conn. Division of Stewart-Warner Corp. *In Canada:* Bassick Division, Stewart-Warner-Alemite Corp., Ltd., Belleville, Ont.

Bassick MAKING MORE KINDS OF CASTERS . . . MAKING CASTERS DO MORE

For more details circle NED-3515 on enclosed inquiry slip

A Complete Line of Regular & Special Fastenings

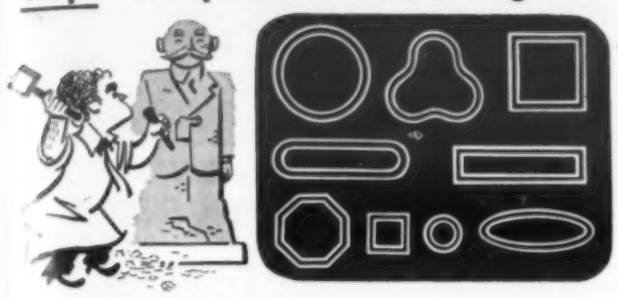
HOLTITE-Phillips Slotted Heads

A complete line of precision-made screws and bolts, regular and special, for every fastening requirement. Specify HOLTITE with full confidence of smooth, economical application and faultless performance.

CONTINENTAL SCREW CO.
New Bedford, Mass., U.S.A.
Call Your Distributor

For more details circle NED-3516 on enclosed inquiry slip

"Shape" is important in small tubing too!



When you have a design or production problem involving small tubing, shape may be all-important. At Superior we draw round or shaped tubing to standard specifications, or to your own designs, in scores of analyses of Carbon, Alloy and Stainless Steel, Nickel, "Monel", "K-Monel", "Inconel" and Beryllium Copper. The tubing is furnished in cut, multiple or random lengths, accurately dimensioned to close tolerances, with bright, clean inside and outside finish.

Get more information about Superior Tubing now. Review your requirements with a Superior representative, without obligation. Write today.

FREE—Ask for a copy of Bulletin No. 31. It's packed with tubing data.

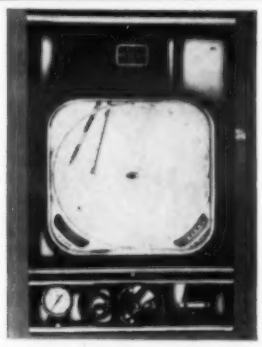
Superior
THE BIG NAME IN SMALL TUBING

All analyses .010" to ⅝" O.D.
Certain analyses (.035" max. wall) up to 1⅜" O.D.

SUPERIOR TUBE COMPANY • 2018 Germantown Ave., Norristown, Pa.

For more details circle NED-3517 on enclosed inquiry slip

Automatic controller *introduces* 5 important features



It took Bristol to give you—in its Series 500 Air-Operated Controller—these exclusive advantages.

1. *Calibrated control actions.* Three quick settings reproduce previously-established actions exactly.
2. *Zero reset rate and zero derivative time.* Facilitate automatic start-up.
3. *Single adjustment returns instrument to "control" operation.*
4. *Gold-plated "free" vane*—made of beryllium copper for strength, gold-plated for long life.
5. *Reset stops.* Ask about this exclusive Bristol feature.

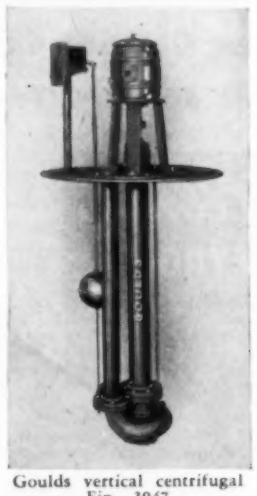
Write for Bulletin A120. THE BRISTOL COMPANY, 112 Bristol Road, Waterbury 20, Conn.

BRISTOL

AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

For more details circle NED-3518 on enclosed inquiry slip

For Dependable Heavy Duty Sump and Drainage Service



Goulds vertical centrifugal Fig. 3047

This rugged, heavy duty sump pump gives exceptional service in removing water from boiler room pits, pipe tunnels, elevator pits, cellars, basements. It is also widely used for transfer service where automatic control of liquid levels in vats or tanks is required.

CAPACITIES Fig. 3047 is available in four sizes for pit depths from 3 to 20 feet. Capacities from 10 to 650 G.P.M. with heads up to 130 feet depending upon capacity.

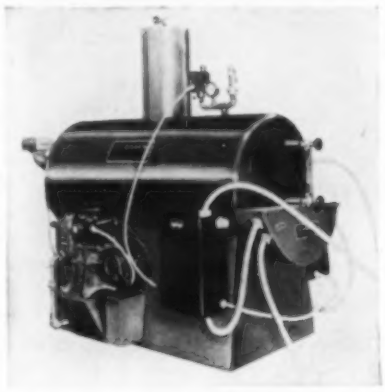
ADVANTAGES The unit comes complete with float, automatic switch and cover plate. The discharge pipe, pump support column and the cover plate are welded into a rigid unit assuring permanent alignment of upper and lower bearings. Lower bearing is protected by special pressure equalizing system to give long wear.

For complete information call or write Pump Headquarters or your nearest Goulds dealer. Ask for Bulletin 726.1.

Goulds PUMPS INC. Seneca Falls New York

For more details circle NED-3519 on enclosed inquiry slip

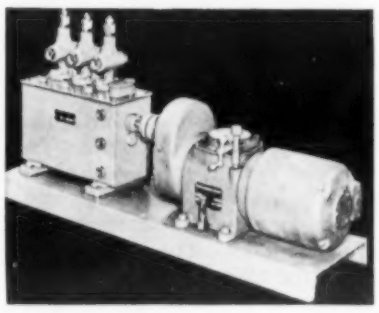
ELECTRIC STEAM BOILER produces moderate amounts at 90 psi



Manufactured in accordance with ASME specifications for working pressures up to 150 psi, Electro-Matic automatic electric steam boiler withstands 300-psi cold water test. It can be used as steam cleaner and will handle two cleaning nozzles. Obtainable in 40, 60 and 90-gal sizes, unit is furnished in ratings from 1/10 to 10 boiler horsepower. Made by **Siebring Mfg. Co.,** 662 Main St., George, Iowa.

For more details circle NED-3520 on enclosed inquiry slip

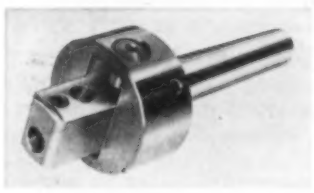
CHEMICAL FEEDER can pump against 300 psi per feed



Capable of pumping against high pressure, this chemical feeder is adjustable up to 1 gpm of liquid per feed. It automatically injects chemical in exact proportion to amount of liquid being pumped and is designed so that only pumping unit contacts chemical. Driving mechanism operates in tightly enclosed oil-filled case, and pumping units can be constructed of various materials to meet special requirements in food, pharmaceutical and petroleum industries. Multiple units can be supplied with any number of feeds operated by rotary, motor or lever drive. Made by **Frontier Industries Inc.,** Manzel Div., Buffalo 10, N. Y.

For more details circle NED-3521 on enclosed inquiry slip

LIGHTWEIGHT BORING HEAD uses dovetail slide and extended jaw

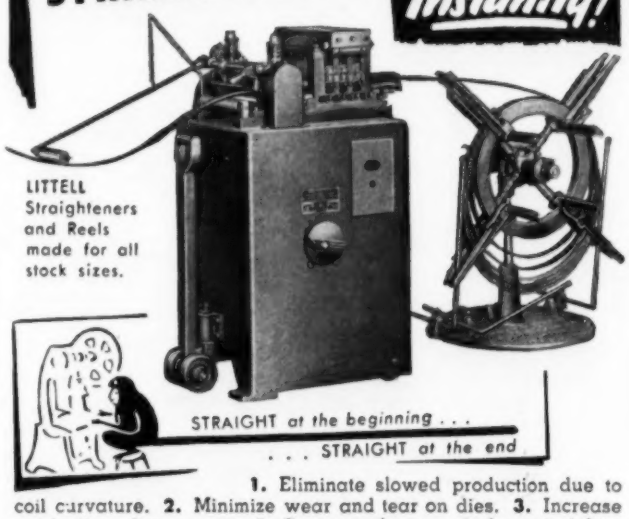


Developed for small jig borers, turret lathes and light milling machines, this lightweight boring head has 2⅞-in. diameter, bar capacity of ½-in. and will offset to maximum of ½-in. Model No. 24 is designed to hold cutting tools in vertical position; model No. 25 holds tools in both vertical and horizontal positions. All adjustments are made with one wrench. Heads incorporate safety round contour, ground micrometer screws with easy-to-read dial, hardened V-tool locks and threaded backs for interchange of arbors and adapters. Made by **Flynn Mfg Co.,** 26 E. Larned St., Detroit 26, Mich.

For more details circle NED-3522 on enclosed inquiry slip

LITTELL VARIABLE SPEED STRAIGHTENERS

Automatically STRAIGHTEN STOCK *Instantly!*



1. Eliminate slowed production due to coil curvature. 2. Minimize wear and tear on dies. 3. Increase production—lower costs. 4. Save man-hours—produce straighter stampings—eliminate hand straightening time after stamping. 5. Cut rejects to a minimum. 6. Increase safety of operation.

F.J. Littell MACHINE CO. 4169 RAVENSWOOD AVENUE, CHICAGO 13, ILL. Write for Catalog

For more details circle NED-3523 on enclosed inquiry slip

New! di-acro BOX FINGER BRAKE

Four models 6" 12" 18" 24"
Capacity—16 Gauge Steel

3 TOOLS IN ONE
1 BOX and PAN BRAKE
2 STANDARD BRAKE
3 BAR FOLDER

One box or 10,000—can be economically produced with the versatile new Di-Acro Box Finger Brake. Serves perfectly for all standard brake operations—an Acute Angle Bar converts the brake to a bar folder for locks, seams, hems and sharp angles. The unique Di-Acro Open End Finger forms square or triangular tubes and other similar parts. The Box Finger Bar can be easily mounted on all standard Di-Acro Brakes.

Send for **40 PAGE CATALOG** describing Di-ACRO Shears, Punches, Benders, Brakes, Notchers and Rod Porters—also Power Shears and Benders.

Di-Acro is pronounced "DIE-ACK-RO"

O'NEIL-IRWIN MFG. CO. 354 EIGHTH AVENUE, LAKE CITY, MINN.

For more details circle NED-3524 on enclosed inquiry slip

Sunset over the Rockies?

No, it's the magnified "horizon" of a series of Nicholson file teeth as viewed through an *optical comparator* that profiles objects and enlarges many up to 125 times. Note that teeth are all uniformly high, uniformly spaced—ready to share the work evenly. The added checkups afforded by this scientific "seeing eye" help to keep cutting machines in adjustment—to prevent uneven spacing that may result in high and low teeth.

Low teeth that can't reach the work shirk their duty, put extra wear on the remaining high teeth—meaning poor file work, shortened file life, excessive file costs. Uniform cut is one of the many features of Nicholson files that spell QUALITY.

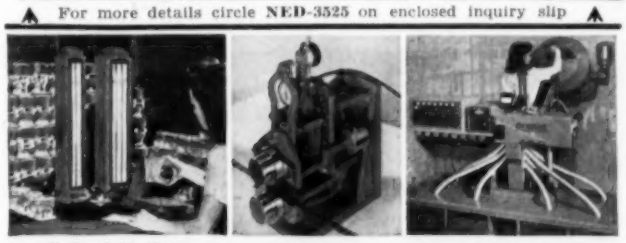
SOLD THROUGH INDUSTRIAL DISTRIBUTORS

FREE—"FILE FILOSOPHY." New edition; 48 illustrated pages on kinds, use and care of files. Purchasing and shop heads need it. Send for it.

NICHOLSON FILE CO., 34 Acorn Street, Providence 1, R. I.

NICHOLSON A FILE FOR EVERY PURPOSE

For more details circle NED-3525 on enclosed inquiry slip



Federal Air Gage — Automatic Thickness Gage — Electronic Sorting Gage

THREE CASES FROM THE FEDERAL FILE OF *Over 20,000 GAGE DESIGNS*

- Federal gives you whatever gaging system you need: mechanical, air, electronic, or electrical.
- Federal designs the gage to best serve your purposes: manual, semi-automatic, fully automatic.
- Federal plans the gage to give you positive size indications—beyond the shadow of a doubt.
- Federal gives you gages that show up dimensional trends so you can readjust your machines to prevent scrap before it's produced.

Take advantage of our 20,000 Gage Designs. This fund of practical gaging knowledge can't be equalled anywhere in the world . . . *and it's ready to serve you.* Let us quote on your next gaging problem. Send blueprints to Federal Products Corp., 1175 Eddy St., Providence 1, R. I.

FEDERAL Largest manufacturer of indicating type gages . . . exclusively.

For more details circle NED-3526 on enclosed inquiry slip

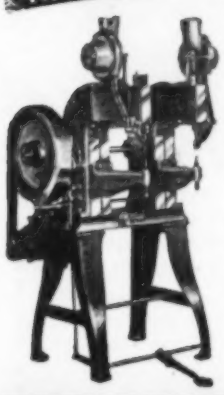
WHATEVER YOU FASTEN . . .

COMPOSITION TO COMPOSITION · FABRIC TO FABRIC · WOOD TO WOOD · METAL TO METAL · LEATHER TO LEATHER

OR ANY COMBINATION OF THESE MATERIALS . . .

Chicago AUTOMATIC RIVETING

FASTENS IT RIGHT . . . AND FASTENS IT FAST



• In Chicago Automatic Rivet Setters from 1 to 4 tubular or split rivets are fed, inserted and clinched in a fraction of a second with each operating pedal release. Adjustment on some models permits handling different sizes of rivets. Riveting machine also adaptable for eyelets, grommets or drive screws.

FREE Fastening Analysis
Your output may be increased and cost reduced if you investigate. Send sample assembly and blue print.

Chicago Rivet
CHICAGO RIVET & MACHINE CO.
9606 W. Jackson Blvd., Bellwood, Ill. (CHICAGO SUBURB)
Tubular and Split Rivets In All Rivet Metals

For more details circle NED-3527 on enclosed inquiry slip

FELT SEALS

They lubricate—and retain lubricants, including pressurized—exclude dust, dirt, water—give effective protection against failure due to leakage or impurities—many types both plain and laminated meet wide range of conditions.

*For complete technical information, ask for "Felt Seals, Their Design and Application," Data Sheet No. 11, the authority on this important subject.

American Felt Company
TRADE MARK
General Offices: 62 Glenville Road Glenville, Conn.
Sales offices in all principal cities

For more details circle NED-3528 on enclosed inquiry slip

Here's a real PARTS BOX buy!

THE NEW Brunco BOX

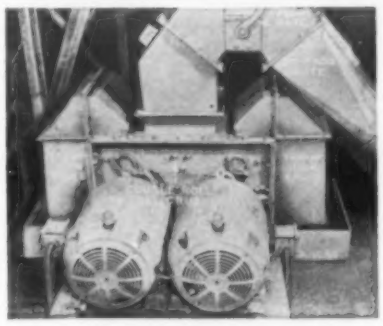
1. Corrugated Steel for Maximum Strength and Rigidity.
2. Three Piece Construction — Securely Arc Welded.
3. 14 Gauge Corrugated Steel Body.
4. 9 Gauge Corrugated Steel Reinforced Skid.
5. 7½" Standard Underclearance 26" Wide; 36" Long; 26" Deep.
6. Capacity 14 Cu. Ft. — 3000 Lbs.
7. Tiering Plates And/Or Crane Lugs at Slight Additional Cost.

$26.50 EACH
Ask for No. 524. Delivery within 30 days. Prices for special boxes upon application.

Brunco HANDLING EQUIPMENT
BRUMMELER STEEL PRODUCTS CORPORATION
1411 Ionia Ave. S. W., Grand Rapids, Michigan

For more details circle NED-3529 on enclosed inquiry slip

DOUBLE ROTOR CRUSHER
sectors operate independently

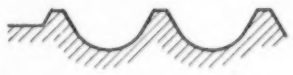


Equipped with two rotors driven by separate direct-coupled motors, S-A Knittel crusher has been designed to process wet coal and similar materials which tend to clog and reduce ordinary crusher capacity. Synchronization is unnecessary since crushing sectors on rotors operate independently, first splitting coal on initial impact and then crushing it on breaker plates. Sized slots in crusher grate bars determine maximum size of material. Since triangular sectors are held in position by centrifugal force, they are free to adjust position on impact with tramp iron or other foreign material. Hinged fingers on each side of crusher allow sectors to bat tramp iron out without damage to crusher. Made by **Stephens-Adamson Mfg. Co.**, 12 Ridgeway Ave., Aurora, Ill.

For more details circle NED-3530 on enclosed inquiry slip

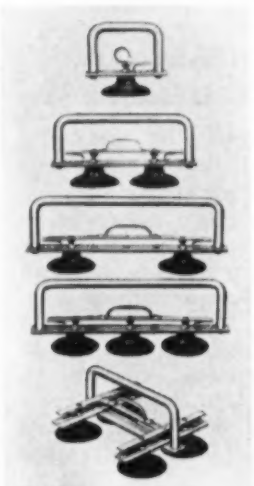
FATIGUE RESISTANT THREAD
has reduced stress concentration

This high fatigue resistant screw thread has been developed by substituting liberal radius for sharp notch or negligible radius of standard thread forms. Furnished as external thread on bolts, studs and rods made of carbon and alloy steel, heat treated for maximum resistance to fatigue, or of low-carbon steel cyanide-hardened, it is suitable for service where severe vibratory stresses are encountered. Developed by **Bethlehem Steel Co.**, Bethlehem, Pa.



For more details circle NED-3531 on enclosed inquiry slip

INDUSTRIAL VACUUM LIFTERS
facilitate handling sheets and strips



Recommended for handling sheet metal, glass and other sharp-edged materials, these heavy-duty vacuum lifters can be obtained in five different models. Features include effective valve construction combined with resilient neoprene vacuum cup that enables tools to attach themselves to any flat surface with light touch and to hold with vise-like grip until released by slight pull on valve lever. Single, two, three and four-cup lifters are rated at 60, 120, 180 and 250 lb lifting power respectively. Available styles are shown. Made by **W. I. Martin & Co.**, 3563 W. Ogden Ave., Chicago 23, Ill.

For more details circle NED-3532 on enclosed inquiry slip

Q: Name a good screen cloth
A: HEWITT-ROBINS Screen Cloth

BECAUSE you increase the time between screen cloth changes—on *any make* of screen!

BECAUSE Hewitt-Robins Screen Cloth is made of Super-Gyraloy, the specially blended alloy steel wire that's the toughest, hardest screening surface ever developed.

BECAUSE Hewitt-Robins Super-Gyraloy Screen Cloth comes in the *weave* you want . . . the *size opening* you need.

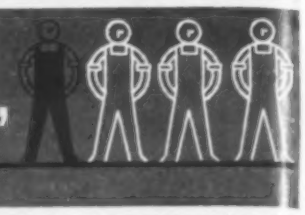
BECAUSE its heat treatment and microstructure make Super-Gyraloy highly resistant to abrasion without sacrificing ductility. You can actually bend a wire of this cloth around its own diameter without fracture.

SEND TODAY for Bulletin No. 113-A. Fully describes Hewitt-Robins Super-Gyraloy Screen Cloth, 3/16" to 6" openings, made from #12 gauge wire to 5/8" rod in square and rectangular openings, flat top and non-blind weaves. Also in Gyraloy (spring steel) stainless steel, Monel metal, brass or enamel coated in any standard diameter of wire. Robins Conveyors Division, 270 Passaic Ave., Passaic, N. J.

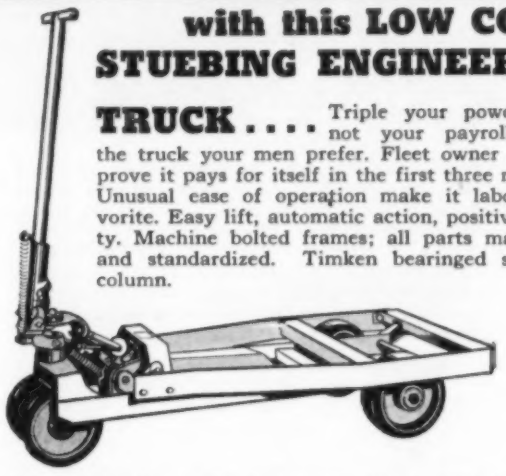
HR HEWITT-ROBINS SCREEN CLOTH

For more details circle NED-3533 on enclosed inquiry slip

triple your "men-power"



with this LOW COST STUEBING ENGINEERED TRUCK . . . . Triple your power—but not your payroll—with the truck your men prefer. Fleet owner studies prove it pays for itself in the first three months. Unusual ease of operation make it labor's favorite. Easy lift, automatic action, positive safety. Machine bolted frames; all parts machined and standardized. Timken bearinged steering column.

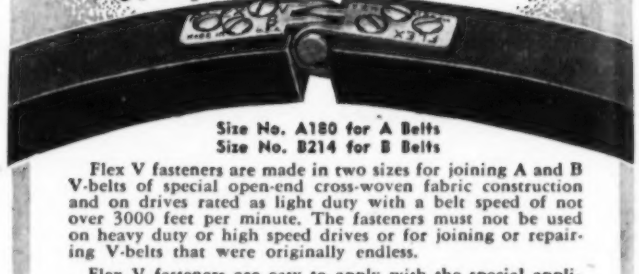


For full details on the Red Arrow (single-stroke) or the Hydromatic (multi-stroke) send for Bulletin "G".

LIFT TRUCKS, INC.
Walter Stuebing, President
2425 Spring Grove Ave. Cincinnati 14, Ohio

For more details circle NED-3534 on enclosed inquiry slip

The FLEX V TRADE-MARK Belt Fastener for A and B Belts of open end construction



Size No. A180 for A Belts
Size No. B214 for B Belts

Flex V fasteners are made in two sizes for joining A and B V-belts of special open-end cross-woven fabric construction and on drives rated as light duty with a belt speed of not over 3000 feet per minute. The fasteners must not be used on heavy duty or high speed drives or for joining or repairing V-belts that were originally endless.

Flex V fasteners are easy to apply with the special applicator tool. The separable hinge joint makes for quick replacement of V-belts without dismantling shafting or machinery. Flex V fastened V-belts can also be run on V Flat Drives for there is no metal on the under side of the belt to contact the flat faced pulley.

Folder No. V-12 gives complete details on this Flex V fastener with list prices, special tools and application information. Your request will bring a copy.

Order from your supply house

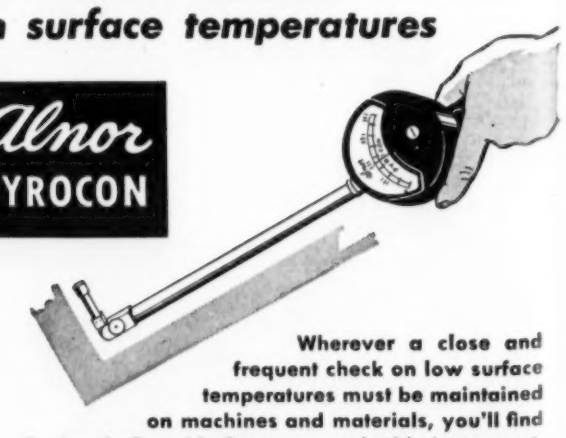
FLEXIBLE STEEL LACING CO.
4664 LEXINGTON ST., CHICAGO 44, ILLINOIS

Also sole manufacturers of Alligator Steel Belt Lacing for flat transmission belts. Alligator V-belt Fasteners for V-belts and Flexco HD Belt Fasteners and Rip Plates for fastening and repairing conveyor belts.

For more details circle NED-3535 on enclosed inquiry slip

for close check on surface temperatures

Alnor PYROCON



Wherever a close and frequent check on low surface temperatures must be maintained on machines and materials, you'll find the handy Portable Pyrocon a valuable instrument. It is unexcelled for fast, accurate temperature readings of any surface, flat or curved, stationary or revolving. It may be used with plastic materials, waxes, rubber, liquids, oil or grease, molten soft metals, etc. The rugged Pyrocon can bring laboratory accuracy to your temperature measurement—at low cost. Write today for details on wide selection of thermocouples and extension arms.
Illinois Testing Laboratories, Inc.,
Room 529 420 N. LaSalle St., Chicago 10, Ill.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

For more details circle NED-3536 on enclosed inquiry slip

here's an *Opportunity*

TO CHECK UP ON YOUR FAN NEEDS

- ✓ Ventilation
- ✓ Roof Ventilation
- ✓ Quiet Ventilation
- ✓ Man Cooling
- ✓ Changing Needs
- ✓ Pulley Drive
- ✓ Explosion-Proof
- ✓ Acid-Proof
- ✓ Duct Fans
- ✓ Blowers
- ✓ Pent-Houses
- ✓ Air in Volume

Our new "check list" folder covers all of these subjects . . . tells you how to handle them economically and resultfully . . . helps avoid air-moving mistakes. Send for it *now*. It's free, and it's mighty handy to have. If a particularly tough air problem has been pestering you, chances are it'll point to the solution. And right now is none too early to prepare for the hot summer months. They'll be here before you know it . . . and *then*, it will be too late. Don't get caught with your production down. Send for the Hartzell check list now!

HARTZELL PROPELLER FAN CO.
DIV. OF CASTLE HILLS CORP.
DEPT. G PIQUA, OHIO
ENGINEERING OFFICES IN PRINCIPAL CITIES

For more details circle NED-3537 on enclosed inquiry slip

NEW CUTLER-HAMMER STANDARD DUTY 3 ELEMENT PUSHBUTTON STATION

with the greatest array of wanted features ever offered to machine designers and users

Cutler-Hammer announces a new standard duty 3 element pushbutton station for use with magnetic starters on reversing and 2-speed drives. This new 3 element station can be described as the station most closely formulated to the requirements of the men who design, buy, use and service motorized machines. This station has every wanted and important feature, every feature found in any other 3 element station and some features found nowhere else. Check this new pushbutton station carefully and *let your comparison be your guide.* CUTLER-HAMMER, Inc., 1377 St. Paul Ave., Milwaukee 1, Wisconsin. *Associate:* Canadian Cutler-Hammer, Ltd., Toronto, Ont.

CHECK THESE FEATURES
Let your COMPARISON be your guide!

New Three Element Pushbutton Station weighs one pound, measures only 5-¾ x 2-¾ x 2-⅛. Beautifully styled. Cover and base desirable U-shape construction, simple, sturdy, accessible. Conduit knockouts *both* top *and* bottom. Cover lifts off when you loosen 2 screws that are retained by fiber washers. Finding guides assist accurate replacement of cover.

Mechanism superbly engineered. Terminals fully exposed, accessible and easily identified when cover is removed. 3 connectors simplify internal wiring. *Wiring cannot interfere with operation of contacts.* Terminals arranged so connections for normal reversing or two speed operation are on one side of the unit and don't cross one another. Stop button has normally closed contacts. Others have normally open-normally closed contacts for maximum circuit utility.

Silver to silver contacts with desirable wiping action that assures good electrical connection even on low voltages.

Pushbuttons are smooth-faced, concave and big for annoyance-free gloved finger operation. Buttons are friction-free, *won't* stick, *will* last longer. Easily replaceable.

The two-circuit buttons are mechanically interlocked for safety and circuit simplification.

Surface mounting at $8.25 list. Flush mounting at $6.90 list.

•

Also available 2 element standard duty pushbutton station with same enclosure features and appearance.

CUTLER-HAMMER MOTOR CONTROL C-H

***NEW* 2 element standard duty pushbutton station rated up to 600 volts.** Maintained contact (snap switch) type. With U-shaped cover construction.

For more details circle NED-3538 on enclosed inquiry slip

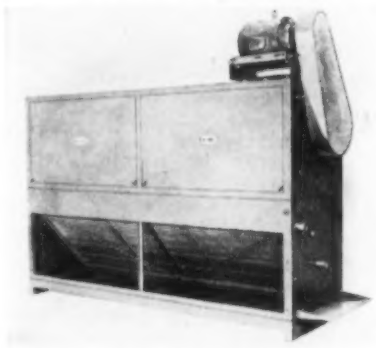
FLOW INTERLOCK
water flow controls electric device

Responding to flow of cold water to open or close an electrical contact, flow interlock control device operates independently of water pressure. It closes contact when flow of water exceeds preset amount and opens it when flow falls below preset amount. Working under this principle, device actually acts as fuse in circuit which depends upon water cooling for protection. Adjustment can be made to control circuit for any flow differential from 1 to 4 gal per min. Flow differential between cut-in and cut-out of electrical contact is 0.2-gal minimum and 0.4-gal maximum. Electrical rating of alternating current device is 10 amp at 125 v, 5 amp at 250 v, and 3 amp at 460 v. It will withstand maximum line pressure of 125 psi.

Mechanism is available complete with union fitting and strainer attachment. Intended only for cold-water applications, interlock can control amount of water flow by installation of throttling or regulating valve ahead of device. Made by **General Electric Co.**, Control Div., Schenectady 5, N. Y.

For more details circle NED-3539 on enclosed inquiry slip

AIR CONDITIONER
central system type has high capacity and operates quietly



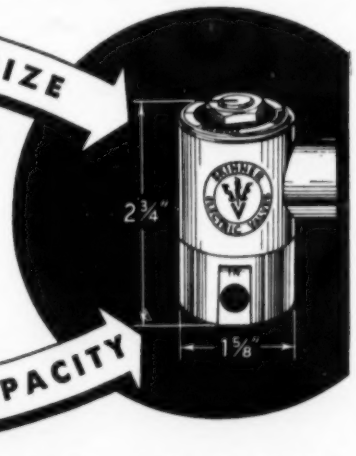
Available in sizes to afford 5 to 75-ton refrigeration capacity, models 39S and 39T Weathermaker central system air conditioners incorporate fan assembly developed to minimize air noise. Spokeless forward-curve blade wheel is mounted on large diameter hollow stiff shaft with self-aligning rubber-mounted bearings and adjustable cutoffs. Heavy insulation on fan section is non-combustible and nonhygroscopic. Large cooling surface and high airway velocity are afforded by cooling coil section set at 45-degree angle.

Units are adaptable to either automatic or manual control. Dampers are opposite-acting and interlocking with felt edgings for air tightness when closed. Coils are available in aluminum or copper fins on copper tube. All conditioners are furnished in sections or components that permit easy assembly in either vertical standing position or as horizontal ceiling suspended unit. Made by **Carrier Corp.**, 302 S. Geddes St., Syracuse 1, N. Y.

For more details circle NED-3540 on enclosed inquiry slip

SMALL IN SIZE

Solenoid Valves
STAINLESS STEEL



LARGE IN CAPACITY

THREE WAY-Two Position-Normally Closed-Normally Open-Directional Flow
TWO WAY-Normally Closed **TWO WAY-Normally Open**

Skinner Solenoid Valves are extremely compact yet have unusual capacity—a great asset to designers looking for positive, accurate, long-lived controls for liquid and gaseous media. Available in standard pressure range of 5 to 250 p.s.i. and special from 5 to 850 p.s.i. Impregnated coils withstand moisture. Soft insert seats prevent leakage. Spring loaded for positive action. Usable in any position. Power consumption of 10 watts max. Pipe connections available to your specifications.

Write for Bulletin No. 491

SKINNER ELECTRIC VALVES

***Skinner* ELECTRIC VALVE DIV.**
THE SKINNER CHUCK COMPANY
135 Belden Ave., Norwalk, Conn.

For more details circle NED-3541 on enclosed inquiry slip

Viscous Materials

FLOW LIKE WATER *through*

Parks Jacketed Cocks Fittings and Pipes

You can't find a better way to convey asphalt, rosin, wax, sulphur, gums, syrups, or other solid or viscous materials than through PARKS Jacketed Lines.

Steam, hot water, or hot oil keep the contents in a quick moving liquid state. Plug-ups and troubles are eliminated.

Jacketed Cocks and Fittings are cast with special alloy 40,000 # T.S. iron. Cocks have stuffing boxes and glands for extra safety and tightness.

Pipes and Fittings are made in standard sizes with 1¼", 1½", 2", 3", and 4" inside diameter, and include Two-way and Three-way Cocks, Tees, Crosses, 90° and 45° Elbows, and Expansion Joints, also 2" and 3" Relief Valves.

Write for Bulletin No. 245

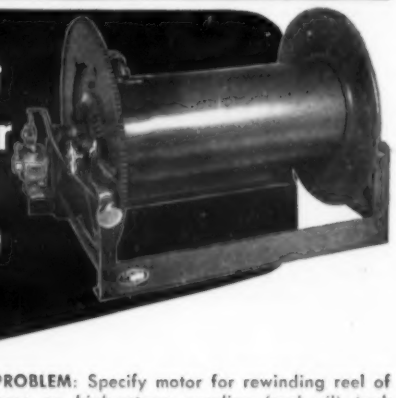
Jacketed Tee

Parks-Cramer Company
ENGINEERS and CONTRACTORS
Fitchburg, Massachusetts

Jacketed 3-Way Cock

For more details circle NED-3542 on enclosed inquiry slip

how to get safe power where sparks are taboo



PROBLEM: Specify motor for rewinding reel of hose on high-octane gasoline (and oil) tank trucks. *Must be 100% safe in explosive atmospheres* . . . must run off truck power sources.

SOLUTION: GAST (Model 4AM) Air Motors connected to truck's high-pressure pneumatic brake system. Developing ¾ H.P., motor is geared down through chain and sprocket.

RESULT: Complete safety with rotary-vane air motor. No sparks — no danger! Variable-speed motor develops plenty of torque for smooth rewinding without jerks.

Many similar — and totally different — engineering problems have been solved successfully with GAST Rotary Air Motors. As original equipment, they offer explosion-proof safety — variable speed from 100 to 6,000 R.P.M. — reversibility — compactness — and other unique advantages. If these features could improve your product, write GAST a brief description of your problem.

ASK FOR "APPLICATION-IDEAS" BOOKLET — ALSO GAST CATALOG

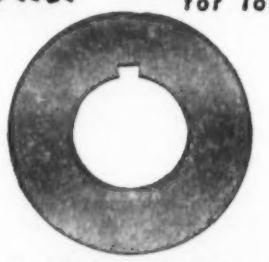
SEE OUR CATALOG in SWEET'S FILE for PRODUCT DESIGNERS

"AIR MAY BE YOUR ANSWER!"

GAST ROTARY AIR MOTORS · COMPRESSORS · VACUUM PUMPS (TO ONE H.P.) (TO 30 LBS.) (TO 28 INCHES)
GAST MANUFACTURING CORP., 115 Hinkley St., Benton Harbor, Mich.

For more details circle NED-3543 on enclosed inquiry slip

O.K. GANG SLITTER KNIVES
for longer service



Made in O.K. Battle Axe, Dura-Chrome or Standard Carbon Grades. Precision ground to ±.0002 tolerances on thickness, diameter and bore. Extremely high finish. SPACERS for above in hardened or unhardened grade ground to same tolerances as Slitters.

We make rotary cutters similar to the one shown for trimming sheet steel, light plates. Some are made with bevels for cutting paper, rubber, plastic, cloth, etc.

O.K. ROTARY SHEARS & BLADES
for maximum toughness

The OHIO KNIFE Co.
CINCINNATI 23, OHIO, U. S. A.

CLIP AND MAIL TODAY

THE OHIO KNIFE CO., CINCINNATI 23, OHIO
Gentlemen: Please send without obligation specific data on knives I have checked.
☐ CIRCULAR KNIVES ☐ SHEAR BLADES
COMPANY_____
NAME_____
ADDRESS_____

For more details circle NED-3544 on enclosed inquiry slip

the MIKRO hand of ECONOMY

$60. per day more material recovered per machine

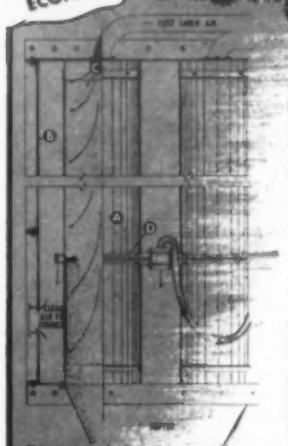


Diagram showing operation of the MIKRO-COLLECTOR

One large manufacturer processing a valuable material recently found that each MIKRO-COLLECTOR* installed in his plant saved him an additional $60 per day in salvaged material.

These savings are directly attributed to these advantages:

★ High percentage of recovery—99.9% plus.
★ Greatly reduced filter cloth area means low maintenance costs, quick and easy material changeovers.
★ Constant uniform flow of dust-laden air.
★ Filter rate 15-25 cfm. per sq. ft. of fabric.
★ Cleaning ring eliminates mechanical shaking.

The revolutionary principles employed in MIKRO-COLLECTOR design insure optimum recovery and sensational filter rates. Our research laboratory and test facilities are available for your dust collection problem without charge or obligation.

SEND FOR—your copy of new MIKRO-COLLECTOR bulletin.

*Patents applied for by H. J. Hersey, Jr., and Pulverizing Machinery Company

PULVERIZING MACHINERY COMPANY
28 Chatham Road, Summit, N. J.

PRESERVE OUR HERITAGE: FAITH, FREEDOM and INCENTIVE

MIKRO-COLLECTOR
Reg. U. S. Pat. Off. By the makers of
MIKRO-PULVERIZERS and MIKRO-ATOMIZERS

For more details circle NED-3547 on enclosed inquiry slip

Choose the RIGHT Motor ...the RIGHT POWER... for the new AIRETOOL Tube Rolling Control

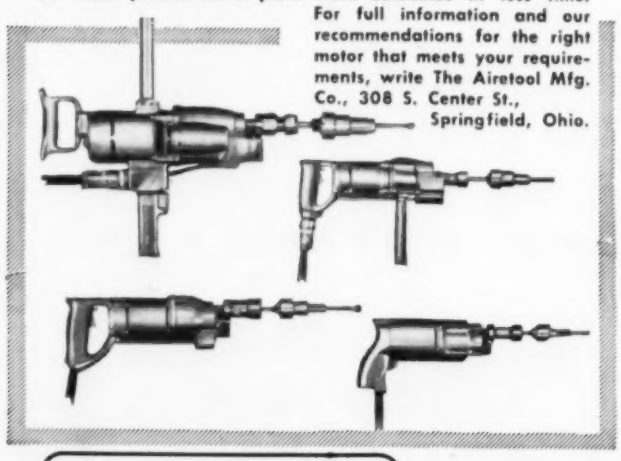
SELECT FROM FOUR SIZES FOR CONDENSER TUBES ¼" TO 1-½" O.D.

Let our engineers help you select motor sizes best for your requirements!

One big reason why you can count on more accurate results with the Airetool tube rolling control is the wide choice of motor sizes which you have to power it.

There are, as shown, four electric motors which meet every known power or industrial requirement. Each is interchangeable with the control unit and in *results* surpasses the performance of air motors.

You will find this new-found tube rolling accuracy pays off in many ways . . . in longer tube life . . . reduced tube end corrosion . . . fewer tube failures . . . longer expander life and more accurate work. By selecting motors with the right speed and power you can deliver this greater accuracy and meet production or piece work schedules in less time. For full information and our recommendations for the right motor that meets your requirements, write The Airetool Mfg. Co., 308 S. Center St., Springfield, Ohio.



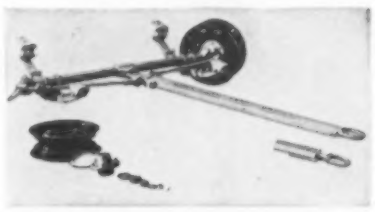
AIRETOOL MANUFACTURING COMPANY
SPRINGFIELD, OHIO

BRANCH OFFICES: New York, Philadelphia, Chicago, Houston, Tulsa, Baton Rouge

There's an AIRETOOL Tube Cleaner and Tube Expander for every type of tubular construction.

For more details circle NED-3548 on enclosed inquiry slip

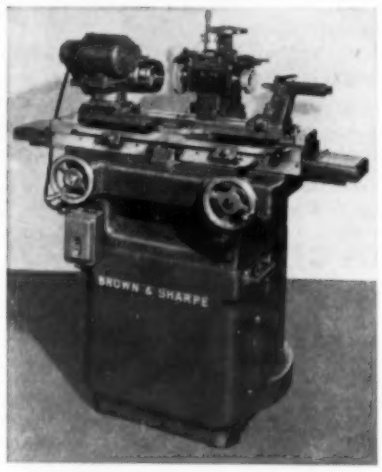
AXLE ASSEMBLIES for two or four-wheel suspension



These complete axle assemblies provide manufacturers, utilities and industrial users of portable equipment with precision built units adapted to specific transport requirements. Front steering assembly design assures true tracking without sidesway or wheel fight, and steering knuckle design provides for adjustable turning radius. Spring variations allow for capacities up to 12,000 lb, and all axles have drop-forged alloy steel spindle with precision ground bearing surfaces. Units can be supplied assembled or knocked down with or without wheels and electric brakes. Made by **Fayette Mfg. Co.**, 410 Front St., Fayette, O.

For more details circle NED-3549 on enclosed inquiry slip

CUTTER & TOOL GRINDER can be obtained with either universal or plain equipment



Illustrated No. 10N cutter and tool grinding machine with universal equipment is designed specifically for rapid and accurate sharpening of plain milling cutters, formed cutters, straddle and face mills, angular cutters of any angle, side milling cutters, end mills, straight or tapered reamers and saws. It can be used also for light cylindrical, internal and surface grinding. If desired, machine can be supplied with plain equipment for those requiring cutter and tool sharpening only.

Fixed height of machine assures visibility of wheel and work from operating positions. Operating controls at both front and rear of table enable operator to assume most convenient position. Unit type double-ended antifriction wheel spindle employing precision, permanently sealed, grease-lubricated bearings can be swiveled in horizontal plane. Sliding table moves easily on steel rollers; and transverse movement screw mounted above V-way and precision ground steel rollers on flat way eliminate any tendency of carriage to twist.

Centers swing in diameter of 10 in., take 16½-in. length between revolving spindle headstock and footstock centers, and accommodate 20-in. length between center head and footstock centers. Machine is driven by constant-speed ¾ and 1/6-hp motors which are fully enclosed. Wheel spindle speeds are 3000, 3750 and 4500 rpm; and headstock spindle speed is 300 rpm. Made by **Brown & Sharpe Mfg. Co.**, Dept. 43, Providence 1, R. I.

For more details circle NED-3550 on enclosed inquiry slip

COVERS THE DANGER AREA

IPCO WELDING CURTAINS

Workers and passers-by are protected from harmful rays given off by welding operations. Also serve as a protective shield against flying chips and scale. Made of special flameproof and waterproof canvas—or asbestos—complete with eyelets for suspending on rod or pipe support.

SALVAGE COVERS AND FIRE BLANKETS ALSO AVAILABLE

Write for Bulletin L-50

IPCO Safety Equipment for all Industries
INDUSTRIAL PRODUCTS COMPANY
2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

For more details circle NED-3551 on enclosed inquiry slip

ENGINEERED CONVEYORS for MAXIMUM OPERATING EFFICIENCY

MANUFACTURERS of PORTABLE CONVEYORS POWER HELPERS CONVEYOR SYSTEMS

Ask Metzgar to suggest a "Most-for-your-Money" conveyor system to meet your requirements.

Reduced handling costs will strengthen your position in a market that is growing more and more competitive.

WRITE FOR DESCRIPTIVE FOLDER

METZGAR CONVEYORS
METZGAR CO.
416 Douglas, N. W.
GRAND RAPIDS 4, MICH.

For more details circle NED-3552 on enclosed inquiry slip

for GREATEST DEPENDABILITY and EFFICIENCY in metered pressure pumping of SULPHURIC ACID ...at all concentrations

Pumps against line pressure . . . meters accurately . . . has no stuffing box, so eliminates leakage, prevents corrosion of pump or contamination of product, avoids loss of prime . . . lowest maintenance . . . Hundreds of satisfactory installations.

• NO STUFFING BOX OR RUNNING SEAL
• POSITIVE DISPLACEMENT PISTON MEASUREMENT
• FLOW RATE ADJUSTABLE WHILE IN OPERATION
• MANUAL OR AUTOMATIC CONTROL

Lapp PULSAFEEDER
PISTON-DIAPHRAGM CHEMICAL PROPORTIONING PUMP

WRITE for Bulletin 262 with complete description and specifications.
LAPP INSULATOR CO., INC., PROCESS EQUIPMENT DIVISION, 216 MAPLE STREET, LE ROY, N. Y.

For more details circle NED-3553 on enclosed inquiry slip

TANK HEATING AND COOLING COSTS LESS with...

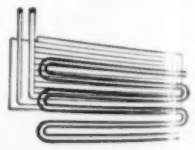
PLATECOIL
Replaces Pipe Coil

LESS MAINTENANCE

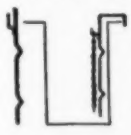
Weighs less than half as much as equivalent pipe coil. Platecoil is easy to handle. Installation can be made in ½ hour by one man and a helper.

MORE PRODUCTIVE CAPACITY

Platecoil has more prime surface per sq. ft. of area than pipe coil, heats faster, and leaves more tank space for production work.



NO LOSS OF SOLUTION



Platecoil can be removed from outside of tank in a matter of minutes without dumping. All connections above liquid level.

Write Today For New Free Bulletin No. P57

PLATECOIL Division
KOLD-HOLD MFG. CO.
LANSING 4, MICHIGAN

For more details circle NED-3554 on enclosed inquiry slip

PIPE MARKERS

anyone can use— everyone can read

QUIK-LABEL Pipe Markers conform to American Standards Association Pipe Identification System. QUIK-LABELS come on handy cards . . . stick without moistening. Names of materials printed in large black letters on correct ASA background colors. CAN BE READ UP TO 75 FEET. Markers for over 140 materials, ***including all materials listed in ASA Standard A13,*** available on Brady Stock Cards. Specials made to your order. QUIK-LABEL Pipe Markers are Silicone Plastic coated to resist dirt, grease, fumes, moisture . . . indoors or out. Replace slow and costly painting and hand stenciling. Exclusive Starter-Strip automatically releases part of label for fast peeling. QUIK-LABELS mark your pipes so that anyone who can read will know what's in them. ***QUIK-LABELS leave no room for doubt . . . or tragedy.*** Write for useful literature and FREE SAMPLES today.

FREE SAMPLES

W. H. BRADY COMPANY | Established 1914

Manufacturers of Self-Sticking Tape Products
Chippewa Falls 5, Wisconsin • Distributors in 125 Cities

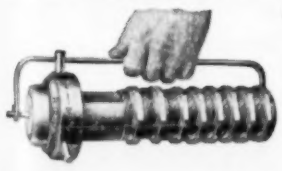
For more details circle NED-3555 on enclosed inquiry slip

Extra-Easy Threading OF SHORT NIPPLES

"This RIDGID nipple chuck sure cuts the monkey-business out of threading short nipples."

New RIDGID Nipple Chuck fits any threading machine, power drive or vise

● Typical RIDGID worksaver advantages in this new nipple chuck—to speed every short nipple threading job! Fits any threading machine, power drive or vise—no special tools, parts or adjustments. No adjusting or changing of stop plug—it's an integral part of nipple chuck—automatically in position for use. Threading nipple is released instantly by turn of nipple chuck—easily unscrewed by hand. Pipe adaptors for ¼" to 1½", chuck takes 2" pipe. Ask for this new efficient nipple chuck at your Supply House.



FREE Patented Carrier for any set

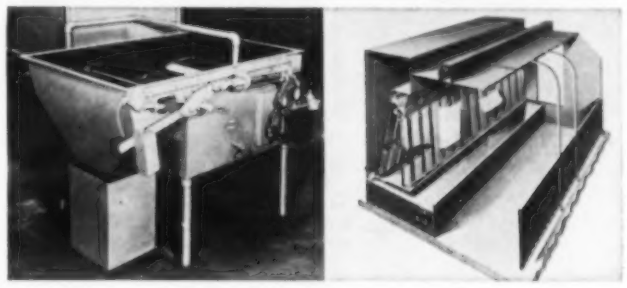
RIDGID
WORK-SAVER PIPE TOOLS

THE RIDGE TOOL CO. • ELYRIA, OHIO

For more details circle NED-3556 on enclosed inquiry slip

SPRAY BOOTH for spray painting operations has automatic unloader for sludge

Even flow of air throughout working area of this spray booth is assured by Hydraire vertically fluted flood sheet, consisting of staggered front and rear section, which

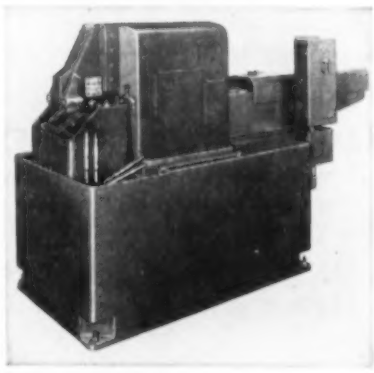


permits passage of air through flutes and creates even suction over entire flooded area. Front and back sections are co-ordinated to produce eddying traps which remove bulk of overspray; remainder is struck from air by torrents of chemically treated water in rear of flood sheet. Water eliminators which form rear wall of washing chamber effectively remove entrained water from air.

Particles of paint forming into sludge on surface of charging tank move over weir into jet eductor chamber where they are picked up and conveyed hydraulically to automatic sludge segregator and unloader which can be located in any convenient place. It dumps accumulated sludge into portable receptacle and returns water to charging tank. Made by **R. C. Mahon Co.,** 8655 Mt. Elliott Ave., Detroit 11, Mich.

For more details circle NED-3557 on enclosed inquiry slip

AUTOMATIC FORMING MACHINE with single or double spindles



Forming operations of external grooves and shapes as well as various end operations can be performed on tubular or solid stock by this automatic machine. Heavy-duty tool slides which carry form and end operation tools advance and retract automatically by positive cam operation. When machine is arranged as automatic bar feed unit, magazine stock loader can be provided. Hopper loading from front or rear can be furnished also to meet specific needs.

Entire cycle of illustrated double spindle machine is actuated mechanically by single cam shaft. Geared drive of cam shaft contained in base has pick-off gears so that cycle time can be changed easily. Hollow, collet type spindles are driven by individual V-belt motor drives housed in separate compartment in base which also contains coolant sump and large chip compartment. Made by **Motch & Merryweather Machinery Co.,** 715 Penton Bldg., Cleveland 13, O.

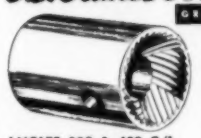
For more details circle NED-3558 on enclosed inquiry slip

Severance DEBURRING CUTTERS HIGH SPEED CARBIDE

Unexcelled for power and hand deburring
Sectional pattern teeth give shearing action

Severance INSIDE DEBURRING CUTTERS
GROUND-from-the-solid
Select 45° High Speed cutters from 28 standard sizes and 30° cutters from 35 sizes—from ¼" to 3" diameters.
Both angles can be supplied in CARBIDE

Severance OUTSIDE DEBURRING CUTTERS
GROUND-from-the-solid



For speedy light deburring of rod ends and tubing O. D's., either offhand or in screw machines. Select 30° cutters from 14 standard sizes and 45° cutters from 10 sizes—up to 4 inch diameter.
ANGLES 30° & 45° C/L
Both angles can be supplied in CARBIDE

OUTSIDE CHAMFERING MILLS

Operate in machines to perform heavy chamfering without chatter—in above size range and angles.

HEADQUARTERS FOR DEBURRING AND CHAMFERING TOOLS DEVOID OF CHATTER

Severance HAND DEBURRING CUTTERS

"A Twist of the wrist" easily bites off the bur left by drill or punch.
Ten standard sizes for ¼ to 2" diameters.
Write for Bulletin 16-D

Complete REGRINDING Service — by New Tool Craftsmen — Savings are thus multiplied —

SEVERANCE TOOL INDUSTRIES, Inc.
761 Iowa Ave. Saginaw, Michigan

For more details circle NED-3559 on enclosed inquiry slip

Now Available for Oil Hardening

Brown & Sharpe Ground Flat Stock *in entire range of thicknesses*

Now you have a choice of oil or water hardening steel in 16 different thicknesses from 1/64" to 1" in this accurately ground flat stock. In the 8 thicknesses up to and including 3/16", a single type of ground flat stock serves for hardening in either oil or water.

With increased range of stock, 145 sizes in all, you can meet a wide variety of requirements where pre-ground flat stock offers many advantages. Write for new folder. Brown & Sharpe Mfg. Co., Providence 1, R.I., U.S.A.

We urge buying through the Distributor

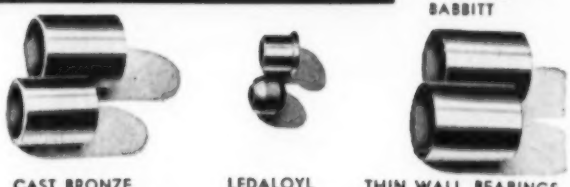
BROWN & SHARPE BS

For more details circle NED-3560 on enclosed inquiry slip

Sleeve Bearings *Made to Order*

JOHNSON BRONZE engineers will help you decide which type bearing is best suited to your application and will design it. Material properties, lubricants, hydrodynamics, load, speed, temperatures and other considerations will be carefully studied. Satisfactory bearing performance in many installations is the result of such study of operating conditions and expert engineering. Consultation with these specialists has proved invaluable to other manufacturers.

WRITE for an appointment—no obligation



CAST BRONZE *Plain or graphited* | LEDALOYL *Self-lubricating* | THIN WALL BEARINGS *Plain or graphited*

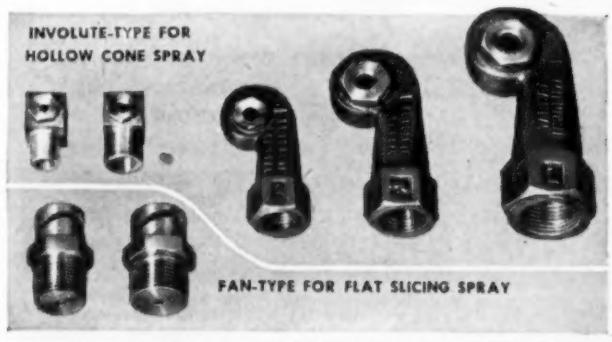
Johnson Bronze
SLEEVE BEARING HEADQUARTERS
580 SOUTH MILL STREET • NEW CASTLE, PA.

For more details circle NED-3561 on enclosed inquiry slip

for • SPRAYING • WASHING • RINSING • COOLING • AIR CONDITIONING

Get the most out of your Spraying Equipment with minimum power . . . with efficient spraying.
Use Yarway Nozzles. No internal vanes or other restrictions to clog or hinder flow.
Wide range of standard sizes and capacities. Cast or machined from solid bar stock.
Thousands in use. Write for Bulletin N-616.

YARWAY
SPRAY NOZZLES
YARNALL-WARING COMPANY
131 Mermaid Avenue, Philadelphia 18, Pa.



For more details circle NED-3562 on enclosed inquiry slip

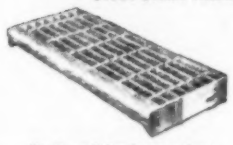
Here's your Catalog for grating and stair treads

Full of applications, specifications and engineering data that will help solve your grating problems

Send for your copy TODAY WHATEVER your grating problem ... flooring, catwalks, stair treads, bridge surfacing, sidewalk doors, subway gratings, or any of the hundred and one uses for any industry ... you'll want this big new Bulletin for complete information on construction details and *all* the advantages of Blaw-Knox Steel Gratings. Ask for Bulletin 2296.

BLAW-KNOX DIVISION
of Blaw-Knox Company
2068 Farmers Bank Bldg., Pittsburgh 22, Pa.

BLAW-KNOX ELECTROFORGED STEEL STAIR TREADS



Designed for tremendous strength against impact. Available with rolled diamond checker plate nosing (illustrated); twisted crossbar nosing; or abrasive nosing.

BLAW-KNOX ELECTROFORGED STEEL GRATING

For more details circle NED-3563 on enclosed inquiry slip

STOP and START with ARROW-HART MANUAL STARTERS Type "RT"

with OVERLOAD PROTECTION

Designed for
- DEPENDABLE OPERATION
- EASY MAINTENANCE

No. 1393

No. 1393-D

No. 1395-W

Simple installation, quick and easy inspection and maintenance are just a few features of the many you'll get in these compact, tough and dependable manual starters. For instance, all components are readily-accessible *from the front;* there's plenty of room in the box for wiring; the unit can be serviced without removing it from the enclosure.

STOP and START is provided by the over-center mechanism. The heart-shaped cam-and-roll principle is activated by torque-type spring to give smooth 2-way operation. Simply push the START button for positive reset.

There's an A-H Type "RT" Manual Starter for every requirement — standard, dustproof, weatherproof and units only. Available in a wide range of phase, voltage and horsepower ratings; up to 7½ H.P.

WRITE TODAY FOR LITERATURE
6004 HAWTHORN STREET
HARTFORD 6, CONN.

CONTROLS and APPARATUS FOR *Outstanding* PERFORMANCE

ARROW AH HART

ARROW-HART THE ARROW-HART & HEGEMAN ELECTRIC COMPANY HARTFORD 6, CONN. U. S. A.

BRANCHES IN: Boston, Chicago, Cleveland, Cincinnati, Dallas, Denver, Detroit, Los Angeles, New York, Philadelphia, San Francisco, Syracuse.

IN CANADA: ARROW-HART & HEGEMAN (Canada) Ltd., Mt. Dennis, Toronto

For more details circle NED-3564 on enclosed inquiry slip

JAW-HEAD HAMMER
rawhide faces are replaced easily

To replace faces of this hammer, workman simply loosens nut, slips face between adjustable jaws of head, and tightens nut. Waterbuffalo hide face provides excellent striking surface for assembling, shaping, adjusting and dismantling parts without surface or other injury. It does not become soft or brittle under extreme temperatures, chip, load up with metal particles, mark or discolor finished surfaces or spark against metals. Made by **Chicago Rawhide Mfg. Co.,** 1287 Elston Ave., Chicago 22, Ill.

For more details circle NED-3565 on enclosed inquiry slip

TAPPING MACHINE
adapted to wide variety of parts

Incorporating four standard model KT electrically driven tapping heads which can be positioned according to shape of parts being tapped, this machine can tap two to four holes simultaneously in each of four different parts. Its versatility enables it to perform tapping operations that ordinarily require separate machines for each part. Made by **Govro-Nelson Co.,** 1935 Antoinette St., Detroit 8, Mich.

For more details circle NED-3566 on enclosed inquiry slip

MAGNETIC FLOOR SWEEPER
rotary unit effects maximum pickup

Since magnetic tube of this sweeper rotates through full 360 degrees, it presents greatest possible surface area for collection of ferrous material from floors, parking lots, dock areas, driveways and other locations. As sweeper is pushed, ferrous material jumps to magnet and spreads itself over entire circumference to thickness of about ¾-in. Unloading is accomplished at either end by simply pushing wiper ring from one end of tube to other, where nonmagnetic section causes load to be released. Device is available in 12 to 36-in. sizes. Made by **Eriez Mfg. Co.,** 1325 E. Twelfth St., Erie, Pa.

For more details circle NED-3567 on enclosed inquiry slip

GORTON T-SLOT SETS

COMPACT, CONVENIENT
Rack furnished with each set to hold parts upright, in place.

SAFETY! at lowest cost —Protects Machine Tables

GORTON safe T-slot Nut Sets, with extra-long bearing surfaces, are designed to eliminate scoring of slots and distortion of table tops. They permit faster setups — and save you money by utilizing inexpensive studs for various heights required.

For any machine tables having ⅜", ½", ⅝" or 11/16" T-Slots. Purchase individually or in sets.

WRITE TODAY for FREE Accessories Catalog 1317.

GEORGE GORTON MACHINE CO.
1905 RACINE STREET RACINE, WISCONSIN, U. S. A.

For more details circle NED-3568 on enclosed inquiry slip

Here's Where HY-PRO taps paid 78 to 1

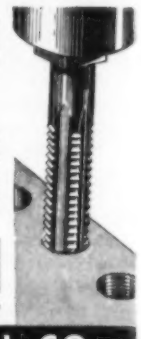
for a Plastics Manufacturer

PART: Molded Plastic Flat Iron Handle

PROBLEMS: Taps being used to thread blind holes in molded plastic flat iron handles had a maximum life of 500 threaded holes in addition to spoiling many pieces by reaming out holes.

Then They Called in the HY-PRO Sales Engineer

HY-PRO SOLUTION: Hy-Pro's Engineer came up with a tap of special design having their exclusive HARDER-NELL surface treatment. Results obtained in this highly abrasive plastic are fantastic—39,000 threaded holes per tap.



Rx Let Hy-Pro solve your tapping problem too—call a Hy-Pro Sales Engineer today.

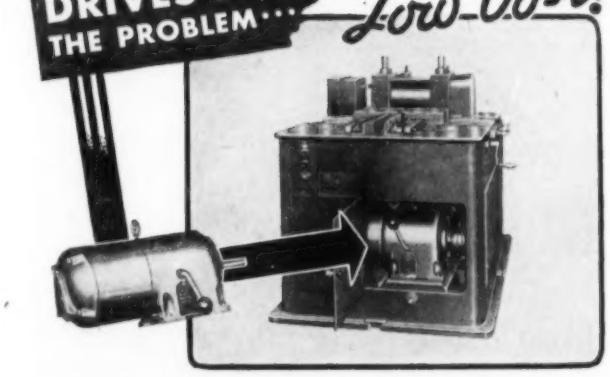
Order from your Distributor

HY-PRO TAPS

HY-PRO TOOL CO.
NEW BEDFORD, MASSACHUSETTS
A SUBSIDIARY OF CONTINENTAL SCREW COMPANY

For more details circle NED-3569 on enclosed inquiry slip

LIMA GEARSHIFT DRIVES SOLVE THE PROBLEM... of CONTINUOUS HEAVY STEEL ROLLING AND BEADING AT *Low Cost!*



Like many manufacturers and users of selective-speed drives, Merry Company, River Rouge, Michigan, chose LIMA GEARSHIFT DRIVES to power their rolling and beading equipment because of LIMA'S rugged dependability and trouble-free performance. The Merry Rolling and Beading Machine is of special construction to handle stock from 2" to 8" wide in continuous operation and is powered by a 5 hp, Type R3A, 1200 rpm integrally mounted motor LIMA GEARSHIFT DRIVE, with a speed ratio of 4.15:1; 3.15:1; 1.85:1 and 1.00:1.

LIMA GEARSHIFT DRIVES are built in a complete range of sizes from ½ to 25 hp. If your selective-speed requirements come within this range—there is a LIMA DRIVE to suit your needs. Write us today ... free bulletins upon request.

LIMA ELECTRIC MOTORS

WRITE TODAY FOR BULLETIN DB-1

Representation in principal cities
THE LIMA ELECTRIC MOTOR COMPANY
321 Findlay Road • Lima, Ohio

For more details circle NED-3570 on enclosed inquiry slip

PREVENT BUNG DRIP with BOWSER ROTARY HAND PUMPS

- STOP WASTE
- Avoid Slippery Floors
- Keep Storeroom Neat
- SAVE TIME!

NEW Perma-Free ACTION

. . . with smooth, nonpulsating, even flow—no splashing! The working parts of Bowser hand pumps are made of noncorrosive materials to prevent rust "freeze" between moving parts. Cadmium-plated housing permits handling most industrial liquids.

Available in 7 models with or without totalizing meter. Write for folder.

Ideal for drums — tanks — vats — underground storage.

BOWSER, INC., 1381 Creighton Ave., Fort Wayne 2, Ind.

LIQUID CONTROL SPECIALISTS SINCE 1885

For more details circle NED-3571 on enclosed inquiry slip

Portable, High-capacity, High-voltage

For testing cables, generators, large motors, transformers, and other high-voltage equipment, a *portable* high-capacity testing unit provides convenience, speed, and accuracy.

Write General Electric for a proposition. Information on these points should be included: test and supply voltages, kva, material to be tested, type of test, and doorway clearances. A suitable unit utilizing standard components will be quoted. *Apparatus Dept., General Electric, Schenectady 5, N. Y.*

GENERAL ELECTRIC
401-87

For more details circle NED-3572 on enclosed inquiry slip

HOT OFF THE PRESS . . NEWS OF IMPORTANCE TO BUSINESS EXECUTIVES

DAY AFTER DAY, new and profitable uses are found for CLARK fork-lift trucks and industrial towing tractors. Top flight operators, materials handling engineers and other plant officials, continue to develop applications for these machines that make them mobile "gold mines." Almost without exception, such new uses are as valuable to others as to their originators.

Many of these new ideas and applications are presented and illustrated in CLARK'S new MATERIAL HANDLING NEWS.

"Profitable reading" best describes this publication. If you already operate CLARK fork trucks, it may help you to employ them to even better advantage. If you are not yet a CLARK fork-truck user, you're certain to learn how they can be employed to your considerable profit.

FREE TO BUSINESS EXECUTIVES

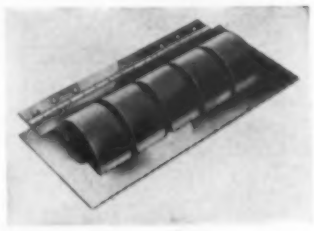
For your copy of the new "how to handle it" issue of Material Handling News clip and mail this handy coupon . . . TODAY!

CLARK ELECTRIC AND GAS POWERED FORK TRUCKS AND INDUSTRIAL TOWING TRACTORS

INDUSTRIAL TRUCK DIVISION • CLARK EQUIPMENT COMPANY • BATTLE CREEK 21, MICH.
Please send the "how to handle it" issue of Material Handling News . . . without obligation.
NAME
FIRM NAME
STREET
CITY ZONE STATE
AUTHORIZED CLARK INDUSTRIAL TRUCK PARTS AND SERVICE STATIONS IN STRATEGIC LOCATIONS

For more details circle NED-3573 on enclosed inquiry slip

PERMANENT MAGNET
can withstand extreme abrasion

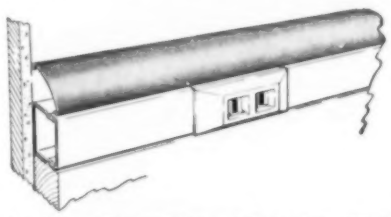


Utilizing Alnico, Lifetime improved magnet is over 50 per cent stronger than previous models. It is completely welded and has stainless steel face plate to withstand abrasion. Installed in either wood or metal feed spouts, it provides valuable protection against tramp iron entering size-reduction machinery. It can be furnished in any width to protect existing installations or can be ordered with adapter to make possible quick installation between machinery and feed chutes. Hinges permit magnet to be swung down for easy cleaning. Made by **Sprout, Waldron & Co.**, 179 Sherman St., Muncy, Pa.

For more details circle NED-3574 on enclosed inquiry slip

WIRE RACEWAY
quarter-round channel serves as trim

Having capacity for five-pair twisted telephone wire, 1900T Plugtrim raceway serves dual purpose of quarter-round trim for 1900 Plugmold and channel for carrying low potential wiring such as is required for telephone and signal systems. It is easily installed by use of 1903 clip which can be slipped behind installed Plugmold or mounted to wall surface. Made by **Wiremold Co.**, 10 Railroad Place, Hartford 10, Conn.



For more details circle NED-3575 on enclosed inquiry slip

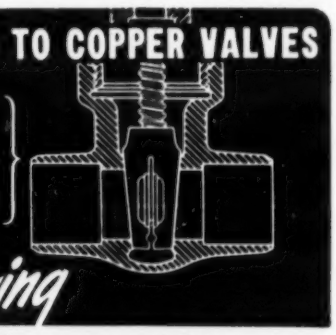
COMBINATION BULLETIN BOARD
provides posting area for notices

Management notices and employee activity messages can be displayed attractively on this Dav-Son three-panel combination bulletin board. It consists of three cork

backed panels in hardwood frame with each panel separately enclosed by locking glass door. Cork surfaces permit pinning up letters, photos and safety posters. Features include changeable letter panel that slips into any of three positions and consists of grooved wood background covered with black wool felt. Professional looking messages can be set up on this panel with white plastic letters and figures supplied with board. Made by **A. C. Davenport & Son, Inc.**, 311 N. Desplaines St., Chicago 6, Ill.

For more details circle NED-3576 on enclosed inquiry slip

New...COPPER TO COPPER VALVES WITH THINNER PIPE ENDS for Easy Soldering



O-B has produced a fast-heating pipe end that permits rapid distribution of heat through the valve wall and assures an even flow of solder around the tubing. Carefully tapered, the pipe end walls take advantage of the inserted tubing for reinforcement, resulting in a sturdy, leak-tight, copper-to-copper connection.

OHIO BRASS COMPANY - - - Mansfield Ohio

AVAILABLE IN THE FOLLOWING SIZES

No. 28	Gate	125 lbs. Non-Rising Stem	⅜" to 2"
No. 29	Gate	125 lbs. Rising Stem	⅜" to 2"
No. 24	Gate	100 lbs. Non-Rising Stem	⅜" to 2"
No. 6	Globe	100 lbs. Rising Stem	⅜" to 1"
No. 7	Globe with waste	100 lbs. Rising Stem	⅜" to 1"

4040-V

Ohio Brass VALVES

For more details circle NED-3577 on enclosed inquiry slip

TRY a gallon at our risk

PROTECT-O-METAL NO. 2
G. W. Smith & Sons, Inc.
5406 Kemp Road, Dayton 3, Ohio
OK. Send me a trial gallon of PROTECT-O-METAL NO. 2 and a bill for $3.15. I understand you will cancel the invoice if I'm not entirely satisfied.
Name
Firm
Address

GET better, cleaner welds for less money
SAVE up to 85% of weld cleaning costs

Brush or spray Protect-O-Metal No. 2 on weld seam and on adjacent metal . . weld . . . then simply wipe off spatter with a dry cloth. Don't waste time, manpower, or profits cleaning up welds with air chisels, wire brushing or sand blasting. Protect-O-Metal No. 2 is the *one* smokeless, odorless, spatter proofing compound. Costs about 1/10c per foot of weld, saves up to three times its cost.

For more details circle NED-3578 on enclosed inquiry slip

Proven . . . . . .

THAT A LIGHT-WEIGHT

M-SCOPE PIPE LOCATOR

FINDS "LOST" PIPES, SHORT STUBS AND VALVES
QUICKER • EASIER • MORE ECONOMICALLY

MODEL AB METAL CASED CABINETS

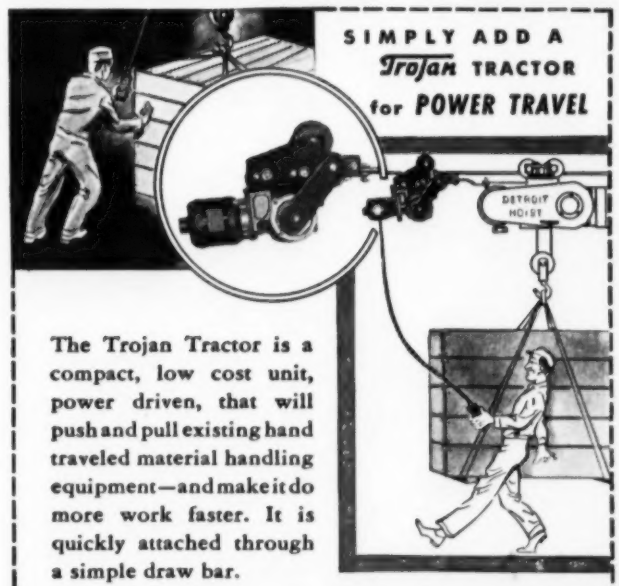
Traces—Centers—Measures Depths Without Connection to Pipe, Cable or Earth.

PRICE $149.50

★Weighs Only 10 Lbs.
FULLY ELECTRONIC
ULTRA-STRONG POSITIVE SIGNAL
FREE LITERATURE Upon Request

FISHER
Research Laboratory, Inc.
PALO ALTO, CALIFORNIA

For more details circle NED-3579 on enclosed inquiry slip



The Trojan Tractor is a compact, low cost unit, power driven, that will push and pull existing hand traveled material handling equipment—and make it do more work faster. It is quickly attached through a simple draw bar.

THE TROJAN TRACTOR PRICES BEGIN AT $360

Bulletin 810 tells more about the Trojan; fill in your company name, address, and send in this advertisement for a copy.

DETROIT HOIST & MACHINE CO.
8247 MORROW ST. • DETROIT 11, MICH.
Company
Address

For more details circle NED-3580 on enclosed inquiry slip

for
Conveyor Belts
HINGED PLATEGRIP
BELT FASTENER No. 500

Specially designed to permit quick and easy method of adding to, or reducing length of belt. Just pull the hinge pin to open joint.

Write for Catalog Sheets. PLATEGRIP for dust-tight permanent joints. HINGE PLATEGRIP for "add-on" belts. REPAIR PLATES for patching worn or repairing torn belts.

ARMSTRONG-BRAY & CO.
5362 Northwest Highway
Chicago 30, Illinois

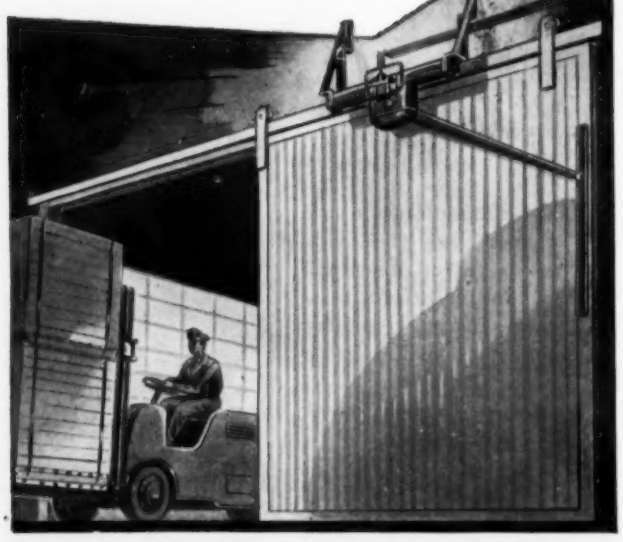
For more details circle NED-3583 on enclosed inquiry slip

KEEP YOUR DOORS
closed
when not in use

NP
PRE-ENGINEERED
Pneumatic
DOOR OPERATORS

SPEED UP material handling . . . isolate dust, fumes and fire hazards . . . reduce costs of air-conditioning and heat . . . increase productive time of employees, with N. P. air-powered Door Operators. They embody the same dependable N. P. Air Engines used to open and close the car doors of the great metropolitan subways throughout the world.

Write for Bulletin DC-102



NATIONAL PNEUMATIC CO., INC.
INDUSTRIAL DIVISION
Boston • Graybar Bldg., New York • Chicago
Pneumatic Specialists Since 1904

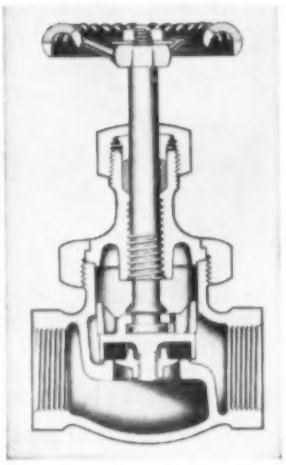
For more details circle NED-3584 on enclosed inquiry slip

ADJUSTABLE DRILL HEAD
has fingertip locking arrangement

Capable of drilling square rectangular, circular, triangular and irregular patterns, this adjustable drilling head can be obtained with three, four or six spindles. Grooved ball thrust bearings are used on spindles and needle bearings on other components. Tool offers wide range of adjustment, has fully geared head and is light and compact. Sizes range from 0 to ¼-in., 3/16 to ½-in. and up to No. 2 Morse taper socket capacity. Made by **Errington Mechanical Laboratory, Inc.**, Staten Island 4, N. Y.

For more details circle NED-3585 on enclosed inquiry slip

LIQUEFIED PETROLEUM-GAS VALVES
for use at pressures up to 250 psi



Line of globe, angle and check valves is approved by Underwriters' Laboratories for use on liquefied petroleum - gas service at pressures to 250 psi. All three types have screwed ends and are available in sizes from ¼ to 2 in. To assure tight seating, valves have composition disk which is cemented into disk holder. Tightness at stuffing box is afforded by one-piece molded asbestos packing. In addition to above-mentioned service, valves can be used for other applications such as hot or cold water, compressed air, gasoline and light oils. Made by **Crane Co.**, 836 S. Michigan Ave., Chicago 5, Ill.

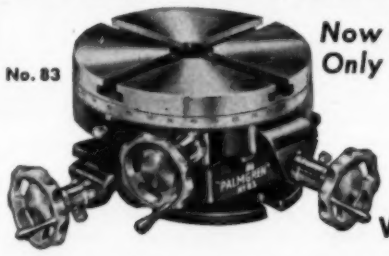
For more details circle NED-3586 on enclosed inquiry slip

TOTALLY-ENCLOSED MOTOR
available as face mounted type

Having NEMA style C dimensions in ratings from ¾ to 20 hp, this Klosd-Tite fan-cooled motor can be obtained as footless model or as standard horizontal type with feet. It is suitable for close-coupled pumps or blowers or for incorporating in machine. Forced draft ventilation provides adequate cooling by means of external fan which is protected by fan cover. Labyrinth seals on shaft ends assure positive protection against entry of liquids into bearing housings. Made by **Sterling Electric Motors, Inc.**, Dept. NED, Telegraph Rd. at Atlantic Blvd., Los Angeles 22, Calif.

For more details circle NED-3587 on enclosed inquiry slip

DUAL CROSS and ROTARY FEED
PALMGREN
Rotary, Index, Milling Table



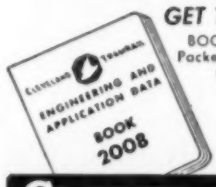
No. 83
Now Only $49.50
Turns Your DRILL PRESS Into A VERTICAL MILLER

Think what this will mean in your shop! Can be used on any Drill Press, Lathe or Milling Machine and provides what is practically a universal milling machine.
Designed for use in all types of metal and woodworking shops. A precision table permitting fine work to close tolerances. It is accurate, speedy, well constructed and attaches quickly in a firm position.
Rotary feed calibrated in degrees; Cross feed in thousandths; Dual Cross Slide with cross feed 2⅛" each side of center or 4¼" overall. Has acme thread cross feed screws, adjustable gibs on cross slides. 40 to 1 worm and gear ratio in rotary feed. Equipped with bolt slots and locking screws.
No. 83 Table Dia. 8", T-Slots ⅜", Base Keyway ⅛", Base Dia. 6¼", Ht. 5", Wt. 37 lbs. Price Only $49.50. Other Types available. No. 82 Dual Cross Feed only $39.75; No. 86 Rotary Feed Only $42.50.

Order Today! If dealer can't supply, write us. Ask for Circular No. 354
CHICAGO TOOL and ENGINEERING CO.
Mfrs. of PALMGREN PRODUCTS Since 1918
8378 South Chicago Ave. • Chicago 17, Ill.

For more details circle NED-3588 on enclosed inquiry slip

For several years the above crane has unloaded nine 60-ton cars of sand every 24-hour working day During a working month (25 days) it handles 25,000 to 37,500 tons. The single-line 1/2-yd. grab bucket has no motors and eliminates usual impact on crane. The bucket is easily detached, enabling use of crane hook.



GET THIS BOOK!
BOOK No. 2008
Packed with valuable information

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6211 East 285th St., Wickliffe, Ohio
CLEVELAND TRAMRAIL

For more details circle NED-3589 on enclosed inquiry slip

simple . . . reliable . . .
easy to take apart

Only three moving parts. No pilot gears. No sliding vanes. No reciprocating members. Nothing to get out of order.
IMO pumps are designed for handling oils, hydraulic control fluids and other liquids over a wide viscosity range.

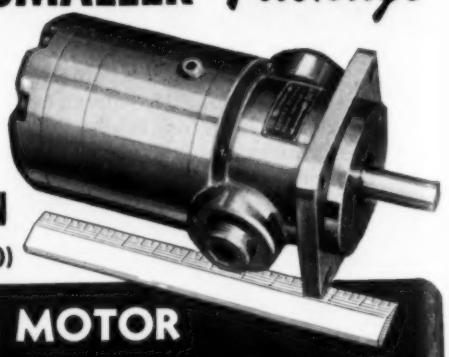
Send for Catalog L-32A-W

I-155

IMO
I MOVE OIL
IMO PUMP DIVISION of the
DE LAVAL STEAM TURBINE CO.
TRENTON 2, NEW JERSEY

For more details circle NED-3590 on enclosed inquiry slip

TORQUE
MORE ~~HORSEPOWER~~
in a SMALLER Package



NEW DENISON
(Series 400)

FLUID MOTOR

A new high in *compact fluid power.* You get up to 24 hp output from this husky, heavy-duty motor — yet it's less than a foot long. Its rugged, close-coupled, axial-piston action takes sudden stops, starts and reversals with trouble-free ease. Unusual compactness makes it easy to adapt to equipment that puts space at a premium. Operates at 2500 psi, with speeds up to 3000 rpm and a torque rating of over 500 inch-pounds. Flange or foot mountings. This new "400 Series" HydrOILic Fluid Motor meets a wide range of industrial needs . . . Send for bulletin FM-2 for the full story. Write today!

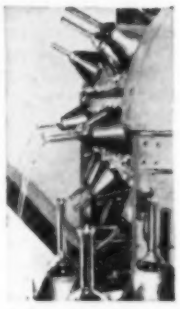
The DENISON Eng. Co.
1151 Dublin Road
Columbus 16, Ohio
DENISON HydrOILics

For more detail circle NED-3591 on enclosed inquiry slip

A delicate Operation

Separating the yolk from the white is a delicate operation. In industry, too, cases arise requiring careful handling of the product. With the engineering and fabrication at Allied a special conveyor that operates without hesitation or jerk was conceived, built and installed to convey delicate television tubes during a screen, film depositing operation.

You may have a handling peculiarity in your own plant. An Allied experienced material handling man can help you. Make an appointment with him today; phone TWinbrook 2-3040 or write *Allied Steel & Conveyors, Inc., 17326 Healy, Detroit 12, Michigan.*



Settling Conveyor applies phosphorus deposit to television tubes.

CONVEYORS AND CONVEYOR SYSTEMS
—designed, fabricated, erected—or present systems remodeled and rearranged

ALLIED DOES THE WHOLE JOB . . . from beginning to end!

For more details circle **NED-3592** on enclosed inquiry slip

FORGET THESE TROUBLE SOURCES . . . when you specify SNAP-LOCK TRADE MARK **HEAVY DUTY LIMIT SWITCHES**

- COMPLICATED DESIGN
- DETERIORATION OF POINTS
- FAULTY MAKE AND BREAK
- INSULATION FAILURE
- EXCESSIVE WEAR POINTS
- CORROSION TROUBLES

Check these Snap-Lock superior design and construction features. They will bring you dependable, trouble-free limit switch performance:

- ✓ **SNAP make and break**
- ✓ **Pure silver self-wiping contacts**
- ✓ **Positive locking, either on or off—can't stop on dead center**
- ✓ **Separate sealed electrical and mechanical sides**
- ✓ **Hardened steel moving parts; forged levers**

But Snap-Lock superiority doesn't stop there; Snap-Lock engineering service is an important part of the finished package. We gladly analyze a customer's needs, recommending the exact unit to save space, eliminate expensive mechanical contrivances and insure trouble-free switch performance.

That service costs you no more—but it will save you time—and money. Let us function as your switch design department.

Regular Style

Push Lever Style

Explosion & Water Resisting

Neutral Position and Short Travel Styles also available

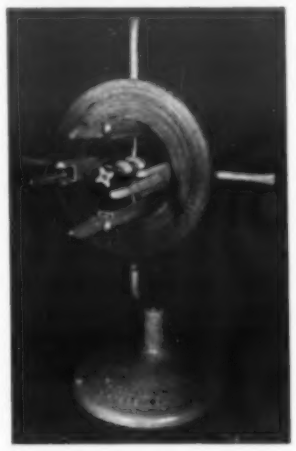
Ask us for your copy of this new illustrated factual 12-page folder on standard Snap-Lock Limit Switches. Request bulletin EM-47.

ELECTRICAL MANUFACTURING DIVISION

THE NATIONAL ACME CO.
CLEVELAND, OHIO
182 EAST 131ST STREET • CLEVELAND 8, OHIO

For more details circle **NED-3593** on enclosed inquiry slip

COIL STOCK REEL
collapsible forks speed loading



Built to save time in loading and unloading coils, model SRF-654 plain stock reel has holding forks which are laid over when loading coil and then snapped up into position for operation. Unit is adjustable to any angle, has needle and thrust bearings to permit free spindle rotation, operates with sufficient drag to provide desired amount of tension and incorporates rigid floor stand with offset base. It handles stock up to 6 in. wide and coils from 1⅛ to 28 in. ID and 34 to 54 in. OD. Weight capacity is 300 lb. Made by **U. S. Tool Co.,** Springdale Ave. & N. Eighteenth St., East Orange, N. J.

For more detail circle **NED-3594** on enclosed inquiry slip

INDUSTRIAL LIGHTING FIXTURE
assures wide area of focused light

Feature of model 66 Hi-Bay industrial lighting unit is hand blown double-wall glass reflector. Silver plating spun-coated to facet-designed interior assures maximum reflectance. Double wall construction facilitates cleaning of reflector exterior without damage or discoloration to silver plating. Dead air within hermetically sealed walls acts as insulation against heat of lamp. Equipped with spun aluminum housing and cadmium-plated fittings, fixture has 17-in. diameter, 20-in. height and 8-lb weight. It employs 750 or 1000-w incandescent or 400-w mercury lamp. Made by **Midwest Lighting Products Co.,** Dept. 1, P. O. Box 536, Edgewater Branch, Cleveland 7, O.

For more details circle **NED-3595** on enclosed inquiry slip

THREE-POINT ROCK DRILL
has cemented carbide cutting tips

Recommended for drilling granite, sandstone, hard limestone, concrete and similar materials, Tri-Point rock drill employs triangular-shaped vacuum-sintered cemented carbide tips. Drill shank is made of heat treated alloy steel, and tool can be used in air or electric hammer type drills. Diameters range from ⅜ to 1 in. and lengths from 7⅜ to 12 in., depending on drill diameter. Made by **Kennametal Inc.,** 171 Lloyd Ave., Latrobe, Pa.

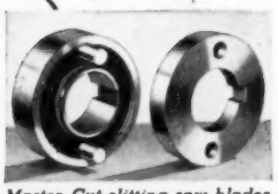
For more details circle **NED-3596** on enclosed inquiry slip

Master-Cut SAW BLADES GIVE YOU Extra Features AT PRICES NO HIGHER

Why be satisfied with less?

Standard stock sizes—3", 4", 5", 6", 8" dia., 1/32" to 3/16" thick.

Pay no more, but get extra value! Finest high speed steel. Strong tooth form; teeth, of uniform height, have correct rake angle to speed cutting. Side clearance and flat hub prevent binding; rigid holding. Dual Drive reduces breakage. *Extra features, but no extra cost!*



Master-Cut slitting saw blades can be supplied from stock in Dual Drive or conventional key drive type.

Get full details in Bulletin 220-N.

THE MOTCH & MERRYWEATHER MACHINERY CO.
PENTON BUILDING • CLEVELAND 13, OHIO
AT YOUR COMMAND • AN UNPARALLELED EXPERIENCE IN CIRCULAR SAWING

For more details circle **NED-3597** on enclosed inquiry slip

Only this O.C. OCULAR COMFORT fixture checks on all points!

EASILY INSTALLED!
ECONOMICAL AND EFFICIENT!

1. Durable construction
2. One piece bottom louver
3. Greater shielding 35° lengthwise, 35° crosswise
4. Quickly, easily installed
5. Easily relamped
6. Low surface brightness

Distributed Exclusively through Electrical Wholesalers

Wheeler REFLECTOR COMPANY
Lighting Equipment Specialists Since 1881

For more details circle **NED-3598** on enclosed inquiry slip

Drill Hardened Steels without Annealing—

With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon—high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

You Harden It—We'll Drill It—With "HARDSTEEL"

BLACK DRILL COMPANY
Division Black Industries
1380 East 222nd St. • Cleveland 17, Ohio

Also makers of— BLACK DRILLING UNITS—AUTOMATIC, SELF-CONTAINED—FOR COST-CUTTING PRODUCTION ON ALL MATERIALS *Write for information*

For more details circle **NED-3599** on enclosed inquiry slip

NEW BAKER FORK TRUCK Model FT

Costs less to buy— Does more work per dollar—because of its **100% FUNCTIONAL DESIGN**

CAP.—3000 and 4000 lbs.
WIDTH—35 inches
WEIGHT—6600 and 7500 lbs.
TURNING—Operates in 64" intersecting aisles with 36" forks. Outside turning radius 73 inches.

- Greater Visibility
- More Comfortable to ride
- Easier to operate
- Interchangeable Uprights
- No-Plug Controller
- Baker-Built Motors
- Soft-Touch Brakes
- Cushion Tires
- Worm-Drive Axle
- Wide-Angle Steer
- All-Steel-welded Frame

LEARN HOW LITTLE THIS TRUCK COSTS!

Write for full descriptive data and prices and see for yourself why the Baker FT costs less to buy and does more work per dollar because of its 100% functional design.

BAKER INDUSTRIAL TRUCK DIVISION
of The Baker-Raulang Company
1245 West 80th Street • Cleveland 2, Ohio

Baker INDUSTRIAL TRUCKS

For more details circle **NED-3600** on enclosed inquiry slip

HOLDS REFRIGERANTS WITHOUT LEAKING!

Model CGA½2

...even after repeated lifting

Here's an extremely tight-seating valve which under clean operating conditions will hold refrigerants or other gases under pressure . . . even after repeated "popping"!

Acceptable to cities observing Refrigeration Code. Designed to operate in conjunction with BS&B SAFETY HEADS where desired (ASME Unfired Pressure Vessel Code, para U10-B).

Available in any quantity. Standard body brass . . . may be fabricated of other metals to order. Write for complete descriptive literature, prices.

MANUFACTURERS, JOBBERS . . .

Attractive discounts for quantity purchases. Write, wire today.

BLACK, SIVALLS & BRYSON, INC.
Section 1-855FV
720 Delaware St., Kansas City 6, Mo.

BS&B REFRIGERANT RELIEF VALVE

For more details circle NED-3601 on enclosed inquiry slip

Kodak

So you can see what's going on

You can slow down even the fastest motion—slow it down and study its every detail.

On 16mm. movie film, the Kodak High Speed Camera takes up to 3000 pictures in one second—beautifully sharp pictures packed full with revealing details. Projected at normal rate, they can show the action at nearly 1/200th the original speed. At this ultra-slow pace, all the factors of stress and motion present in high speed action become readily apparent. You can see exactly what happens in fast-moving equipment, see it enlarged, see it over and over again—slowed down to a speed suited to the human eye.

Here is a valuable tool in solving problems of design, production, and product performance. A single, self-contained unit, it's easy to use.

A booklet, "Magnifying Time," will be sent at your request. It gives examples of high speed photography in use, as well as full details of the

Kodak *High Speed* Camera

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

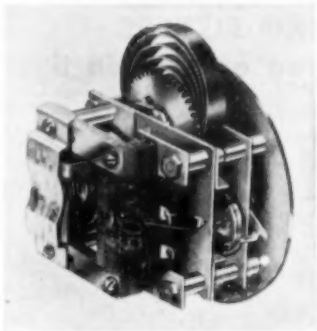
For more details circle NED-3602 on enclosed inquiry slip

MOVABLE LOADING RAMP
is nonshifting and will not buckle

One man can tilt this Safe T Ramp onto its wheels and move it to any desired location. Standard 5 x 4-ft model is made of ⅜-in. thick steel plate and weighs 450 lb. Because of its weight it is not easily shifted by heavy loads. Elevation differential of 8-in. is accommodated by standard model, but greater height differentials can be supplied. Made by **G. A. Kleissler Co.**, 128 Gotthart St., Newark 5, N. J.

For more details circle NED-3603 on enclosed inquiry slip

ELECTRIC CLOCK
continues to operate if power fails

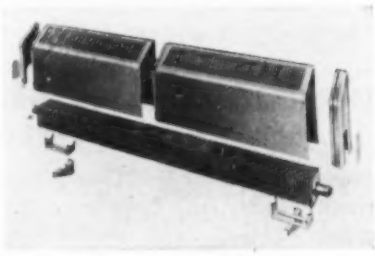


Without losing a second in transition, hand wound spring movement of Duplex Timekeeper electric clock operates when electricity fails. This drive requires rewinding less than once a year, and vertical slot indicates when this is necessary. Total time error is less than ½-second per year in average use.

Duplex component is adaptable to instruments for recording, indicating and controlling temperature, pressure or vacuum. Magnets keep spring drive balance wheel under peak tension while electric unit is in operation. When electricity is cut off, balance wheel is released and main spindle continues moving. Sold by **Advanced Timekeeper Inc.**, Dept. M-30, 11 Commerce St., Newark 2, N. J.

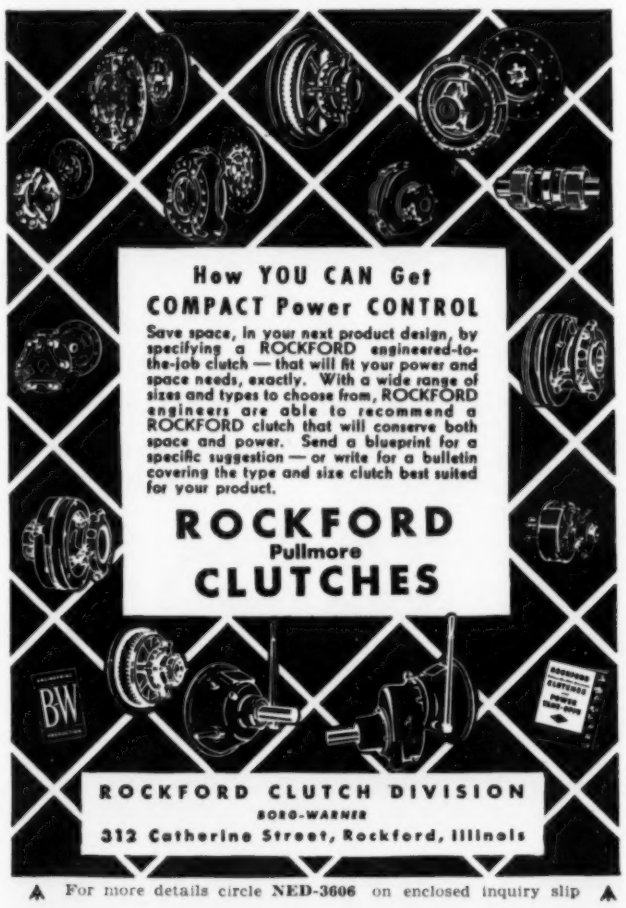
For more details circle NED-3604 on enclosed inquiry slip

WALL-FIN CONVECTOR
radiator uses free-riding hanger



Recommended for variety of commercial and industrial applications, this flexible low-cost system of wall-fin radiation utilizes hanger that rides with expansion and contraction of heating element. This prevents damage from buckling and loosened supports. Units with steel pipe and nonferrous finned heating elements are supplied in standard lengths from 2 to 12 ft in 6-in. increments. This type radiation provides high spot heating around skylights, exterior walls and other points of high heat loss in industrial applications. Made by **Trane Co.**, 2018 Cameron Ave., La Crosse, Wis.

For more details circle NED-3605 on enclosed inquiry slip



For more details circle NED-3606 on enclosed inquiry slip

You know how tight with APCO TENSION DRIVER

$5.95

No. B-25. 0-25 inch pound. Length 12". Weight ¾-lb. Non-slip, non-chip, non-conductor handle.

● HERE'S THE DRIVER you've been waiting for . . . a rugged, fool-proof, ratchet-free torque tool that'll save you many an hour on scores of different assembly jobs. Broken screw days are over when you use APCO.

Just check the safe load on the free chart supplied with every driver and go to work. Four big, easy-to-read brass dials let you see the exact torque from *any* position.

Every driver supplied with three fine tool steel heads to adapt the driver instantly to slotted, Phillips or ¼" socket drives.

Send for descriptive circular today . . . or better still, order one and see for yourself now the easy way this *new* APCO TENSION DRIVER saves you time, material and accidents.

APCO MOSSBERG CO.
161 Lamb Street
ATTLEBORO, MASS., U. S. A.

For more details circle NED-3607 on enclosed inquiry slip

NEW Bulletin 646 Manual Transformer-Type Reduced Voltage Starter

with time delay switchover

Bulletin 646 Reduced Voltage Starter

A-B Quality

Here is the first outstanding improvement in manual transformer-type starters in twenty-five years. Bulletin 646 motor starters have an adjustable time delay which prevents careless operators from switching the motor too quickly to full running voltage. It is available in four sizes from 5 hp, 220-440-550 v, to 250 hp, 440-550 v, for 25, 50, and 60 cycles. Write for descriptive bulletin. Allen-Bradley Company, 1334 South Second Street, Milwaukee 4, Wis.

ALLEN-BRADLEY
QUALITY
MOTOR CONTROL

For more details circle NED-3608 on enclosed inquiry slip

STURDY, CONVENIENT, LOW-COST

JIFFY ALL METAL CABINETS

FOR SMALL PARTS, DRILLS, TOOLS, CARBIDE TIPS AND MOUNTED POINTS

32 DRAWER UNIT • DIVIDES INTO 96 COMPARTMENTS **$8.95**

POSTAGE PAID

64 DRAWER UNIT • DIVIDES INTO 192 COMPARTMENTS **$15.95**

Rustproof Aluminum Drawers

Complete set of Dividers and Index Cards supplied.

APPROXIMATE SIZES
DRAWER 1¼" Deep 2¾" Wide 6" Long
32 DRAWER UNIT 6" Deep 12¾" Wide 15¼" High
64 DRAWER UNIT 6" Deep 25½" Wide 15¼" High

Spot welded steel cabinet, metal flange drawer guides, enamel finish and solid one-piece aluminum drawers in natural satin finish. The first multiple drawer metal cabinet for convenient storage of small parts, drills, tools, carbide tips, mounted points or assembly bench work at such a low cost. Order now for immediate delivery. Send check or money order or rated companies shipped on receipt of purchase order.

KAYTEE PRODUCTS
DEPT. P BOX 588 - CANTON, OHIO

For more details circle NED-3609 on enclosed inquiry slip

Be "COST-WISE"!
PALLETIZE
WITH
Weld-Bilt
Pallet Type
HYDRAULIC LIFT TRUCKS

You'll handle a greater variety of pallets easier and faster with a WELD-BILT Pallet Truck! The slim, sturdy forks, with their greased-for-life ball bearing wheels, are designed to enter all types of single or double-faced pallets.

Some of the features that prove WELD-BILT extra value include: front wheel equalizer, accelerator type lowering pedal, multi-stroke hydraulic lift, "anti-kick-back" safety handle, instant-free handle release, shockproof mounting of hydraulic unit—and many others. They help you to time and labor savings, and promise longer service.

Write today for complete details on WELD-BILT Pallet Trucks, in capacities of 2000, 4,000 and 6,000 lbs. . . . for "Cost Wise" Palletizing. Bulletin 311.

OTHER WELD-BILT PRODUCTS—
HYDRAULIC LIFT TRUCKS
SINGLE STROKE TRUCKS
PORTABLE ELEVATORS
FREIGHT ELEVATORS
SKID PLATFORMS
PLATFORM TRUCKS
TWO-WHEEL TRUCKS
STORAGE RACKS

WEST BEND EQUIPMENT CORP.
220 Water Street, West Bend, Wisconsin
MATERIALS HANDLING ENGINEERS

For more details circle NED-3610 on enclosed inquiry slip

GAS-FIRED UNIT HEATERS
seven stock sizes are available

Outputs of self-contained gas-fired unit heaters range from 70,000 to 230,000 Btu per hour. Aluminized steel combustion chamber and heat exchanger resist corrosion and are welded togther into single leakproof assembly. All models are enclosed in baked-enamel steel casing protected against rust by Bonderizing. Burners are heavy-wall cast iron, readily accessible and adaptable for use with manufactured, mixed, natural or liquefied petroleum gases. All units are approved by AGA. Made by **American Blower Corp.**, 6005 Russell St., Detroit 32, Mich.

For more details circle NED-3613 on enclosed inquiry slip

For LOWER Door Costs

KINNEAR STEEL ROLLING DOORS

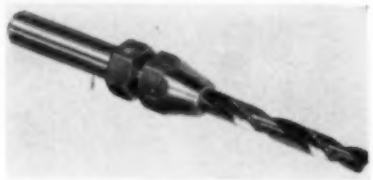
They open upward . . . coil out of the way . . . save floor and wall space . . . feature all-metal ruggedness that combines more years of low-cost operation with extra protection against fire, wind, weather and accidental damage. Motor or manual operation; any size. Write for newest catalog.

The KINNEAR Mfg. Co.
3017 Fields Ave.
Columbus 16, Ohio
1742 Yosemite Ave.
San Francisco 24, Calif.

Saving Ways in Doorways
KINNEAR ROLLING DOORS

For more details circle NED-3617 on enclosed inquiry slip

COLLET DRILL CHUCK
aids using broken or galled drills



Having ¼-in. straight shank for use in drill press, portable electric or hand drill, this Midget collet chuck is made in sizes for all straight shank drills from No. 50 to F. Each chuck can be used for specified size only. In addition to allowing reuse of broken or galled drills, tool permits use of short drills to minimize drift and serves as adapter for mounted wheels and other tools. Made by **Zephyr Mfg. Co.**, 203 Hindry Ave., Inglewood, Calif.

For more details circle NED-3614 on enclosed inquiry slip

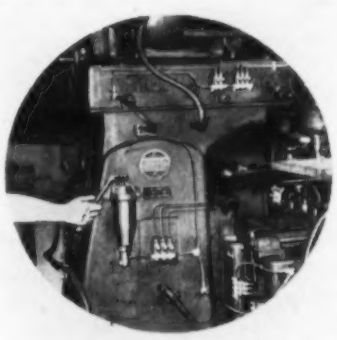
Sound Packaging—an Important Link

If you strive for higher productivity at lower cost study your handling and packaging operations. Experienced engineers say 50% of all productive labor in many products of industry today is occupied in handling and packaging. When labor costs make such claims it's time to apply adequate cost control measures. Plan wisely . . . equip well . . . unite your plan, equipment and personnel into one smooth operation. When volume packaging is done weighing units are necessary for uniformity. They too should fit the job. The fact that EXACT WEIGHT Scales are at work in more than 54 major industries on thousands of production lines from simple hand checkweighing to fully automatic machine operation is evidence we believe of their value to these industries. Write for full details for your business.

EXACT WEIGHT SCALES
Industrial Precision
THE EXACT WEIGHT SCALE COMPANY
129 W. Fifth Avenue, Columbus 8, Ohio
2920 Bloor St., W., Toronto 18, Canada

For more details circle NED-3611 on enclosed inquiry slip

MASTER OILER
lubricates several bearing points



This centralized lubrication system consists of manually-operated CentrOiler pump which supplies lubricant through single-line circuit to SL-4 injectors. These injectors deliver predetermined measured quantity of oil to each bearing every time system is cycled. Maximum lubricant pressure is 1000 psi, and reservoir capacity is 20 oz. System is complete with necessary connectors and adapters for connecting to existing plain or threaded oil holes. Full range of accessories for connection to rotating or reciprocating bearings is available. Made by **Lincoln Engineering Co.**, 5782 Natural Bridge Ave., St. Louis 20, Mo.

For more details circle NED-3615 on enclosed inquiry slip

Control Dust at a PROFIT with a DUSTUBE

Dust control with a Dustube is a more profitable operation because it cleans the air at an unusually low cost. It removes dust with nearly 100% efficiency by actual test. Its unique, simplified design is responsible for many cost saving advantages that thousands of users have found outstanding.

Lower Resistance to Air Flow REDUCES POWER COSTS

The resistance to air flow (back-pressure) is much lower in a Dustube than in any other cloth type collector of equal capacity. This means important savings for you in lower power costs because power consumption varies in almost direct proportion to the back-pressure.

Simplified Design REDUCES MAINTENANCE COSTS

The Dustube requires practically no maintenance. There are few working parts to wear. Filter tubes are ready for instant inspection from the clean air side—nothing need be disassembled to do this. When an occasional tube replacement is needed one man can do the job in a few seconds—he needs no tools whatever.

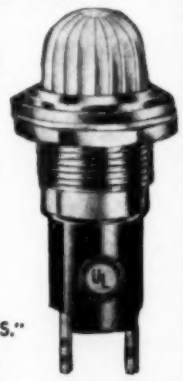
SEND FOR FULL DETAILS TODAY

American WHEELABRATOR & EQUIPMENT CORP.
508 S. Byrkit St., Mishawaka 8, Ind.
dustube COLLECTORS
Offices in Principal Cities

For more details circle NED-3618 on enclosed inquiry slip

DO YOU KNOW?
—that a PILOT LIGHT CAN IMPROVE YOUR PRODUCT
. . . add attraction—safety—service?

Ask DIALCO
—what lamp to use
—how to use it
—what it will do
—what it will cost



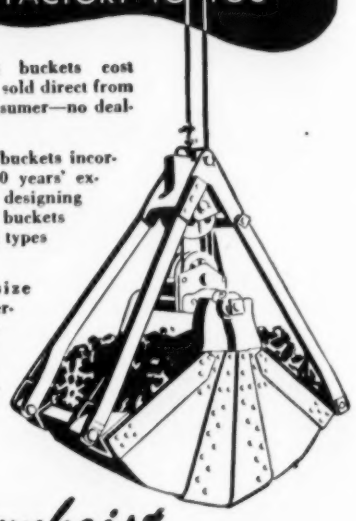
THIS MAY BE THE ONE
Designed for low cost NE-51 Neon
• Built-in Resistor • Patented
• U/L Listed • Rugged
Catalogue Number 521308 — 997 for 110 or 220 volts.
SAMPLES for design purpose NO CHARGE
NEW! Write for the "HANDBOOK OF PILOT LIGHTS."
Write us on your design problems.

Foremost Manufacturer of Pilot Lights
The DIAL LIGHT COMPANY of AMERICA
900 BROADWAY, NEW YORK 3, N. Y.

For more details circle NED-3612 on enclosed inquiry slip

Buy a Better Bucket FOR LESS MONEY Buy Brownhoist
DIRECT FROM FACTORY TO YOU

• Brownhoist buckets cost less—they are sold direct from factory to consumer—no dealer profits.
• Brownhoist buckets incorporate over 50 years' experience in designing and building buckets for handling all types of materials.
• Standard size rope-reeve, power-wheel and link-type Brownhoist buckets are available for immediate shipment.



Brownhoist
Write for illustrated catalog of Brownhoist Buckets
INDUSTRIAL BROWNHOIST CORPORATION
139 Washington Ave., Bay City, Michigan

For more details circle NED-3616 on enclosed inquiry slip

INSTANT ACCEPTANCE BECAUSE OF

AO Twin Cartridge RESPIRATORS

INSTANT CARTRIDGE INTERCHANGING!

Speedy conversion from one type of respirator to another makes this "7-Respirators-in-1" ideal when hazards are numerous. With a single face piece and interchangeable cartridges, workers can be protected from the following:

• Combination of all dusts (Toxic, pneumoconiosis-producing, nuisance) • Organic vapors • Acid gases • Combined acid and organic gases • Ammonia • Organic vapors and "all dusts" • Metal fumes as in welding, burning, etc.

Dust filter and organic vapor cartridges are approved by the U. S. Bureau of Mines. R5000 shown here with AO 700 Rubber-Frame Goggle.

Your nearest AO Safety Products Representative can supply you.

American Optical
SAFETY PRODUCTS DIVISION

Southbridge, Massachusetts • Branches in Principal Cities

For more details circle NED-3621 on enclosed inquiry slip

for Finer Finishing ...

try

ORBITAL MOTION Sanding

New LOWER PRICE $115.

Only the SPEEDMATIC has it! Orbital motion—all abrasive grits move in same direction as pad and at same speed, thereby assuring uniform surface.

PORTER-CABLE *Speedmatic* STERLING 1000 SANDER

On wood or metal—in corners, small areas, or for unequalled feather-edging—the orbital-motion Speedmatic-Sterling 1000 does a flawless job every time. Use it to prepare for original finishing—use it to repair surfaces for refinishing—use it for rounding edges and cleaning up plywood. There'll be no scratch, no gouge, no pattern—just glasslike smoothness that will amaze you. The Speedmatic-Sterling has Porter-Cable quality—balanced lightness for ease of handling—and the latest sanding principle on the market. See one at your dealer's or send coupon today. Porter-Cable Machine Co., Syracuse, N.Y.

Manufacturers of SPEEDMATIC and GUILD Electric Tools

In Canada (except B.C.) write: Strongridge, Ltd., St. Catharines, Ont.

PORTER-CABLE MACHINE CO.
2705 N. Salina St., Syracuse 8, N. Y.

Please send me further information on the Speedmatic-Sterling 1000 Sander and other Speedmatic-Sterling Sanders. Also name and address of my nearest dealer.

Name.....

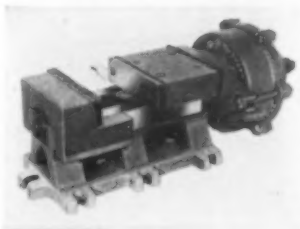
Address.....

City.....Zone.....State.....

Speedmatic—the Line of Balanced Design

For more details circle NED-3622 on enclosed inquiry slip

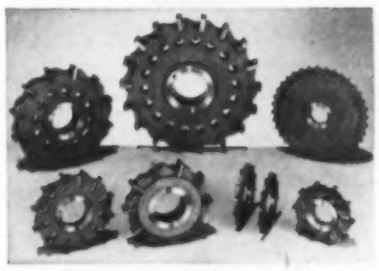
AIR-POWERED VISE
up to 4-in. stroke can be supplied



Operating on air pressure from 15 to 150 psi through single-acting cylinder, Vi-Speed machine vise develops pressure multiplication of 50 times. Jaw measures 8⅜ in. wide and has maximum opening of 11 in. Standard stroke is 1¼ in., but up to 4-in. stroke can be obtained. Having removable tool steel faces, jaws close quickly and snap open. Made by **Van Products Co.**, 2129 Baldwin Bldg., Erie, Pa.

For more details circle NED-3623 on enclosed inquiry slip

MILLING CUTTER
for slotting and side milling



Designated type S, this inserted tooth milling cutter features blades which are standard carbide blanks and that are held in body with simple taper wedge. Maintenance costs are minimized because of ease of setting, grinding and replacing blades. Because of small dimensions of wedges and blades, many blades can be inserted in body of small diameter cutters. Design allows extremely narrow cutters to carry inserted blades with ample rigidity. Cutters can be obtained in widths from 3/16 to 1 in. and in diameters from 3 to 8 in. Made by **Lovejoy Tool Co.**, Springfield, Vt.

For more details circle NED-3624 on enclosed inquiry slip

WORK POSITIONER
redesigned model has 1000-lb capacity

Increased capacity and improved rotational control constitute two important design changes that have been incorporated in model 14C1000 balanced universal work positioner. This rapidly adjusted unit is suitable for both short run work and complicated jobs that require changes in angularity during working cycle of each piece. Unit has rated capacity regardless of diameter as long as center of gravity is on center of work table and within 11½ in. of table top. Worm adjusting balance control has been moved to bottom side of unit to allow large diameter work pieces freedom of rotation. Work plate height is adjustable from 24 to 48 in. above floor level, and range of center-of-gravity location is 14½ in. Made by **Aronson Machine Co.**, Dept. ND, Arcade, N. Y.

For more details circle NED-3625 on enclosed inquiry slip

MULTISTAMP STENCIL DUPLICATOR

Reg. U. S. Pat. Off.

MANUFACTURED ONLY BY THE MULTISTAMP CO., INC., NORFOLK, VA.

Our 29th Year

No. 1 Rubber Stamp Size $9.50 f.o.b. factory COMPLETE

THE ORIGINAL HAND STAMP STENCIL DUPLICATOR *for*

Shipping Tag Addressing
POSTCARD PRINTING
CODE MARKING
BOX MARKING

No. 1 Printing Guide, $7.50 extra

Fast, economical, accurate way to make copies. PRINTS 1000 OR MORE CLEAR COPIES FROM ONE STENCIL, ONE INKING. Simply type, write, trace or draw on stencil, snap it on, and print on postcards, boxes, cartons, tags, labels . . . much like using a rubber stamp. NO moving parts, of non-corrosive METAL, lasts indefinitely. Replaceable ink pads. Prints 5 lines 3¼" long. With supplies in handy, durable case. 5 complete outfit sizes, $9.50 to $99.50. New colorful 1950 packaging. Write for FREE FOLDER.

NEW! NO. 1 SPECIAL OVERSIZE OUTFIT
(same as Standard No. 1) prints 8 lines 3¼" long, $12.50

AT YOUR OFFICE OR SHIPPING ROOM SUPPLY DEALER

For more details circle NED-3626 on enclosed inquiry slip

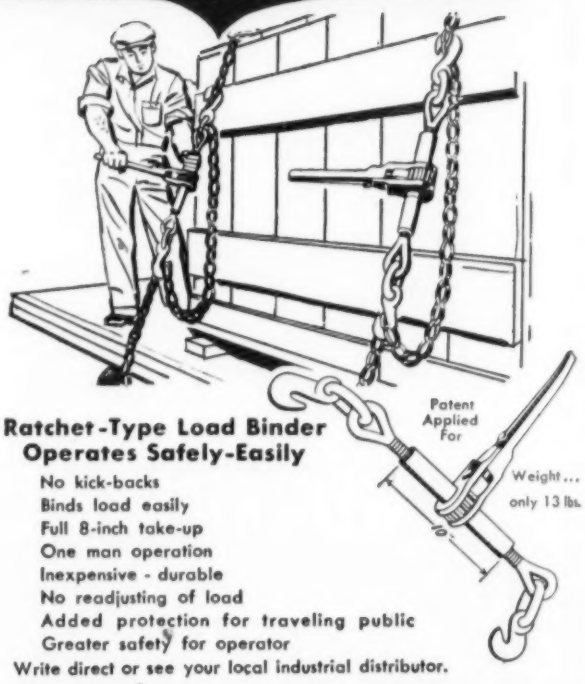
Which One of These Bond Casters is Best for Your Job?

BOND *Built-for-the-job* Truck Casters assure efficient, profitable production! For complete data on the full Bond line, write for catalog K-38.

BOND FOUNDRY & MACHINE CO., 308 Penn St., Manheim, Pa.

For more details circle NED-3627 on enclosed inquiry slip

A NEW Standard for LOAD-BINDERS



Ratchet-Type Load Binder Operates Safely-Easily

No kick-backs
Binds load easily
Full 8-inch take-up
One man operation
Inexpensive - durable
No readjusting of load
Added protection for traveling public
Greater safety for operator

Write direct or see your local industrial distributor.

American FORGE AND MANUFACTURING CO.
812D Shore Avenue • Pittsburgh 12, Pa.

For more details circle NED-3628 on enclosed inquiry slip

540 pounds is only a part of the load these wonder files will carry and permit free operation of the drawers!

CONVOY *chem-board** STORAGE FILES

MAKE THE COST AND WEIGHT OF STEEL UNNECESSARY

Convoy Chem-board Storage Files weigh little over half as much as steel files . . . are priced in the corrugated paper board range—with serviceability in the steel range . . . take less than 10% more space than steel files . . . can be stacked to the ceiling without supports . . . mate together top-to-bottom and lock together side-to-side . . . have wax-like texture that makes drawers slide easily . . . are shipped assembled for easy installation without tools . . . are water resistant — moisture will not weaken them.

(*) Chem-board is the product of Convoy's exclusive chemical impregnation process that hardens the raw corrugated paper board and thoroughly binds the fibers. It is widely used to replace steel and wood industrial tote boxes.

You'll like Convoy quality and economy. Write today for descriptive folder and prices on 14 standard sizes.

CONVOY *chem-board* STORAGE FILES

CONVOY, INC. • P. O. Station B, Canton 6, Ohio

For more details circle NED-3629 on enclosed inquiry slip

put
CHROMALOX
Electric
TUBULAR HEATERS
to work in your plant!

Bent and Formed to Exactly Fit Your Needs!

CHROMALOX Tubular Heaters operate immersed in liquids, soft metals and molten salts. Exclusive triangular shape can be clamped to metal surfaces and installed in machined grooves to heat platens and dies. Tubular Units are used for radiant and convection heat in ovens and other high temperature equipment. Or, for applications such as plastics molds, cylinders, nozzles, etc., they can be cast into aluminum and iron to your specifications. Sheathed in steel, alloy or copper. Straight lengths or curved to fit your requirements.

WRITE TODAY FOR CATALOG 50
which shows Chromalox Tubular Heaters and the complete line of other industrial heaters for every use.

EDWIN L. WIEGAND CO., 7509 THOMAS BOULEVARD, PITTSBURGH 8, PA.
See other advertisement on page 4.
CHROMALOX
ELECTRIC HEAT FOR MODERN INDUSTRY
▲ For more details circle NED-3630 on enclosed inquiry slip ▲

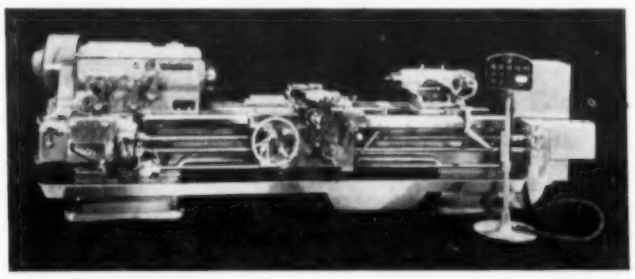
CIRCUIT BREAKER
extends circuit arrangements

Type MO 8 load center can be extended to include up to maximum of three double poles in combination with various single-pole circuits by use of type MO 2A two-pole Ad-On Multi-breaker. This thermal-magnetic common trip breaker has only one operating handle and offers convenient means of adding 220-v loads. Made by **Square D Co.**, 6060 Rivard St., Detroit 11, Mich.

▲ For more details circle NED-3633 on enclosed inquiry slip ▲

DUPLICATING CONTROL
for fast repetitive shaft-turning

Applicable to Monarch engine lathes from 14 to 20 in., Motor-Trace motor-powered electrically operated duplicating device converts machines into automatic-cycle



units capable of producing small lots of two or three pieces with economy usually associated with long production runs. Tracing from gage blocks, micrometer heads or template, unit makes machines adaptable for handling straight multiple-diameter shaft-turning operations in any desired size within their normal capacity. Also, it can be used for step-boring; step-facing and turning tapers, contours, radii or chamfers. With finger-tip control of automatic cycle from single pedestal type station, one operator can handle two machines easily. Made by **Monarch Machine Tool Co.**, Oak St., Sidney, O.

▲ For more details circle NED-3634 on enclosed inquiry slip ▲

APPLIANCE TIMER
for accurate long-interval timing

Featuring short-interval accuracy for long periods, model C73 appliance timer provides 1-minute interval settings for periods up to 4 hours' duration. Direct reading window-type totalizing dial is utilized and window at top permits full visibility while dial is being set. Large clear figures on chromium bezel can be seen easily across room. It is interchangeable with models C53 and C54 and uses same motor and timing mechanism. Unit can be obtained also with narrow bezel and lock-in construction for mounting. Made by **Telechron Inc.**, Dept. NED, Ashland, Mass.

▲ For more details circle NED-3635 on enclosed inquiry slip ▲

THIS SAFE LUBRICANT PREVENTS SCORING

use CMD Anti-Scoring LUBRICANT

Whether you use it on a center or a tool post screw, you will be convinced CMD Anti-Scoring Lubricant is a *safe, sure, economical* lubricant to use. It withstands pressures of more than 50,000 pounds per square inch and prevents any metal to metal contact.

MAIL COUPON FOR FREE SAMPLE

CHICAGO MANUFACTURING & DISTRIBUTING CO.
Dept. 5 NED, 1928 West 46th St., Chicago 9, Ill.
Please send free sample kit of one tube each of CMD Center Point Lube, and CMD Center Point Oil, and catalog of CMD Helical Groove Centers.
NAME .....
FIRM NAME .....
ADDRESS .....
CITY ..... ZONE ..... STATE .....
▲ For more details circle NED-3637 on enclosed inquiry slip ▲

AUTOMATIC
Rolling-Holding
FEATURE MAKES STEP-LADDERS SAFE

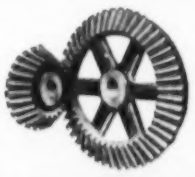
No longer need you fear accidents from rolling step-ladders. The Ballymore Safety-Step feature locks ladder to floor when in use but permits easy rolling when no one is on it. Rubber tipped legs are "locked" to floor by weight of stock clerk; rollers carry ladder weight only.

Available in one and two-step models without handrails, in three-step models with or without handrails and in four- and six-step models with handrails. Wire baskets, which make possible use of both hands, larger loads and faster service are optional on models with handrails.

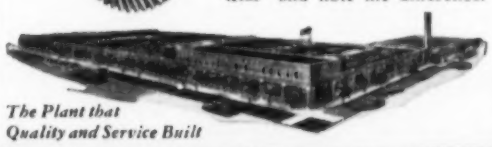
WRITE TODAY FOR FREE ILLUSTRATED CATALOG
THE BALLYMORE COMPANY
7 S. Roberts Road, Bryn Mawr, Pa.
▲ For more details circle NED-3631 on enclosed inquiry slip ▲

FOR SMOOTH-RUNNING
Precision Drives
USE
"Industrial"
GEARS • RACKS • SPROCKETS

ANY SIZE
ANY MATERIAL
ANY QUANTITY



IT doesn't pay to skimp on gears, racks or sprockets—the best always pay in the long run! "Industrial" Gears, Racks and Sprockets are of the finest, being accurately cut to specifications and rigidly gauged, inspected and tested, to offer greatest mechanical efficiency.
Why not send your next order to "Industrial" and note the difference!



The Plant that Quality and Service Built

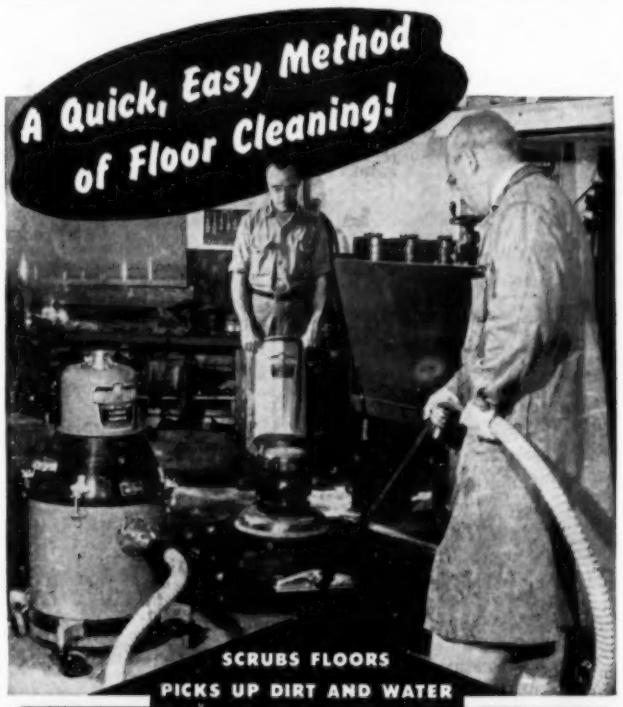
Write for "A Pictorial Trip through our Plant".

INDUSTRIAL GEAR MFG. CO.
4541 VAN BUREN STREET CHICAGO 24, ILLINOIS
▲ For more details circle NED-3638 on enclosed inquiry slip ▲

NEW!
The ALDRICH 5" Stroke Direct Flow Pump Series

At a *new low in price*, these 5" Stroke, reciprocating pumps offer high performance, easy serviceability and outstanding economy of maintenance. Built with 3, 5, 7, or 9 cylinders, the series ranges from 100 to 275 hp and provides pressures up to 10, 800 psi. The fluid-end has a direct flow, close clearance design, and consists of a *sectionalized* assembly which permits specific sections to be replaced — *at a fraction of the cost of an entire end unit.* Design also features easy access to valve assemblies, a wide range of plunger sizes and interchangeable wearing parts. Write for Data Sheet 64.

THE ALDRICH PUMP COMPANY
4 GORDON STREET
ALLENTOWN, PENNSYLVANIA
All Aldrich Pumps Have STAYING POWER
▲ For more details circle NED-3632 on enclosed inquiry slip ▲



Mechanized floor cleaning the Multi-Clean way saves time, labor and money . . . does a better job. Learn how Multi-Clean can solve your problem. Write today.

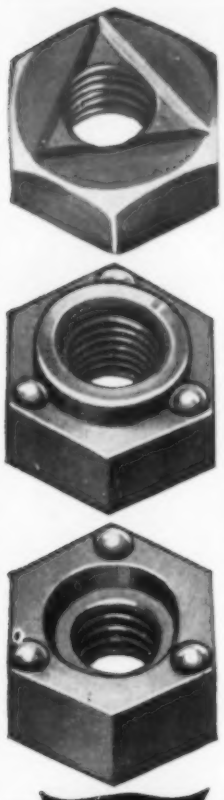
MULTI-CLEAN PRODUCTS, INC.
Dept. 32A
2277 Ford Pkwy.
St. Paul 1, Minnesota
▲ For more details circle NED-3636 on enclosed inquiry slip ▲

Top Products in Every Line Cut Costs and Build Sales with AMERICAN PHILLIPS SCREWS

HOW THEY CUT COSTS: From vacuum cleaners to vending machines; from trucks to office appliances and suntan lamps . . . manufacturers use American Phillips Screws to speed up production, stop spoilage, and cut unit-costs. For these modern fastenings banish fumbling, crooked driving and scarred surfaces . . . *cut assembly time as much as 50%.*

HOW THEY BUILD SALES: On any product, the crossed-recess of American Phillips Screws is a "green light" to buyers who stop and look for an outward index of inward quality.

AMERICAN SCREW CO.
PROVIDENCE 1, R. I.
AMERICAN PHILLIPS Screws
▲ For more details circle NED-3639 on enclosed inquiry slip ▲



3 COST CUTTERS

Inexpensive GRIPCO LOCK NUT* —with "double-triangle" thread lock. Quick application, locks and *holds tight*. Can be re-applied many times with little loss of holding power.

Inexpensive GRIPCO "PILOT" WELD NUT† Raised collar centers the nut instantly, accurately, for quick welding. No measuring, no jigs, no time lost applying.

Inexpensive GRIPCO WELD NUT† —counterbored. Hot metal particles dislodged by welding are shunted away from threads. Bolt threads into nut without trouble or retapping.

Get samples of sizes you use
compare first cost
compare application cost

**Available in Stainless Steel and also Brass and other non-ferrous metals.*
†Available with standard threads or with Gripco "double-triangle" locking threads.

GRIP NUT COMPANY
308-G SO. MICHIGAN AVE., CHICAGO 4, ILL.

▲ For more details circle **NED-3640** on enclosed inquiry slip ▲

Graham
THE FINEST Variable Speed Drive MADE

1. GUARANTEED MOST ACCURATE

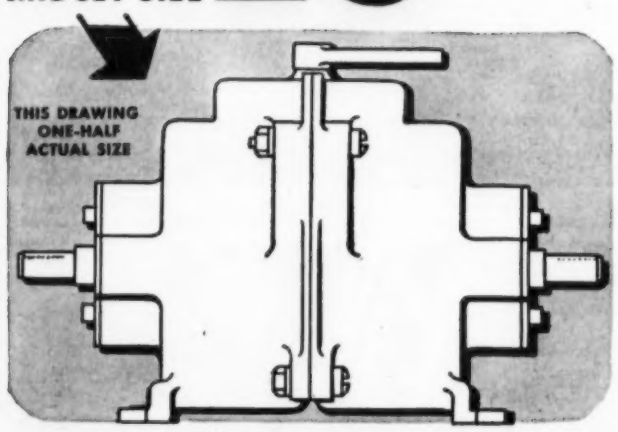
2. WIDEST RANGE
All speeds from top to zero (plus reverse if wanted without stopping motor)

3. MOST COMPACT

NOW IN A NEW MIDGET SIZE

$29.75 F. O. B. Milwaukee
Price to O.E.M. Buyer, less quantity discount

MODEL 10



ONE-HALF SIZE VIEW OF THE MODEL 10 The Model 10 is ideal for small machines such as pumps, feeds and feeders, business machines, instruments, recorders, controllers, etc. etc.

MODEL 10 SPECIFICATIONS
H.P. OUTPUT — 1/15 H.P.
INPUT SPEED — 1800 RPM standard — other as required
OUTPUT SPEED — from 2/3 input speed to zero and reverse
TORQUE — 50 in. oz.
CONTROL — Finger-tip lever — 60° motion.
LUBRICATION — sealed-in oil or grease.

OTHER SIZES UP TO THREE HP — For quick delivery of a Model 10 or full data on the Graham line, use the coupon, or return the Reader Service Card inserted in this magazine.

GRAHAM TRANSMISSIONS INC., 3754 N. Holton St., Milwaukee, Wis.

☐ Enter our P.O. No..... for..... Model 10 Quantity

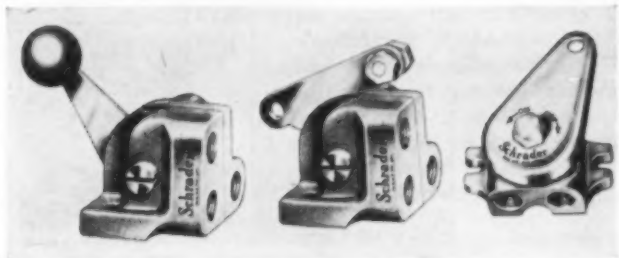
☐ Send full data on the Graham Drive in sizes up to 3 HP, no obligation.

Company.....
Name..... Title.....
Address.....
City..... Zone..... State.....

▲ For more details circle **NED-3641** on enclosed inquiry slip ▲

SMALL AIR CONTROL VALVES
feature sliding disk action

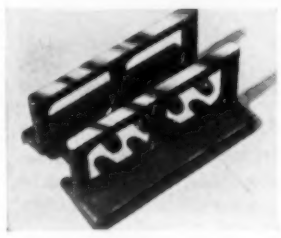
Recommended for use with single and double-acting pneumatic cylinders, these two, three and four-way bantam size sliding seal control valves can be obtained for



hand, foot, knee or mechanical actuation. They are made of forged brass, and one steel bolt holds two-piece body and internal parts in place. Body dimensions are 1⅝ x 1-11/16 in. Although ⅛-in. ports make them especially suitable for use with small bore cylinders, valves can be used on cylinders having bores up to 3½ in. Made by **Scovill Mfg. Co.,** A. Schrader's Son, Div., 471 Vanderbilt Ave., Brooklyn 17, N. Y.

▲ For more details circle **NED-3642** on enclosed inquiry slip ▲

TOOL & DIEMAKER'S PARALLELS
are precision ground to 0.0005-in.



Available in five sizes up to 24 in. long and 16 in. high, Magic parallels are made of semisteel and supplied in nonrusting black crackle finish. They are particularly useful in tool and die work because operator need only lay die shoe or punch holder on parallels to have ready access for drilling, assembling and inspecting. Light enough to carry with work from machine to bench, they have hollow construction for ease of grip. Distributed by **Montgomery & Co.,** 60 Murray St., New York 7, N. Y.

▲ For more details circle **NED-3643** on enclosed inquiry slip ▲

GRAVITY FEED OILER
ratchet control speeds adjustment

Measured amount of lubricant is supplied automatically by this gravity feed oiler to plain, stationary and anti-friction bearings. Ratchet control mechanism is instantly adjustable to feed any number of drops per minute, and spring device locks adjustment into position to avoid dangers of changing rate of feed. Protective cap shields mechanism from dust and dirt and possible damage or distortion when device is cleaned or wiped. Dual purpose vent relieves suction and back pressures caused by tight bearings or high speeds and also provides overflow when feed is set too fast. Oiler is available in 1, 2, 4 and 8-oz capacities with ⅛, ¼ and ⅜-in. pipe thread. Oil supply is clearly visible through shatterproof reinforced plastic reservoir. Made by **Trico Fuse Mfg. Co.,** 2948 N. Fifth St., Milwaukee 12, Wis.

▲ For more details circle **NED-3644** on enclosed inquiry slip ▲

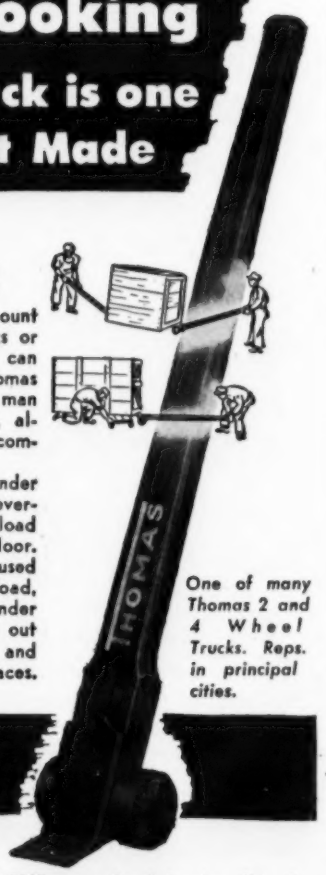
This odd looking THOMAS truck is one of Handiest Made

Moves tremendous loads easier, faster, safer

THOMAS PRY TRUCK

You will be surprised at the amount of heavy cases, crates, die blocks or any kind of big loads two men can move, shift or store with Thomas Pry Trucks. Even with only one man the work production is amazing, although purchase in pairs is recommended.

The sharp steel nose slides under the load and the tremendous leverage enables the user to raise the load easily as high as 9" from the floor. Two or more Pry Trucks can be used to move loads, or by raising the load, rollers or dollies can be placed under it. Loads can be moved in and out of freight cars or motor trucks and shifted in and out of tight places. Write for catalog PT.



One of many Thomas 2 and 4 Wheel Trucks. Reps. in principal cities.

THOMAS TRUCK & CASTER CO.
560 Mississippi River
Keokuk, Iowa

▲ For more details circle **NED-3645** on enclosed inquiry slip ▲

CLEANING HOT PITS WITH VACUUM

Large car wheel pits, 30 feet deep, were formerly cleaned by a man with a bucket and a shovel, after the pits cooled down. Now Spencer Vacuum is lowered into the pit while it is still hot. It is a double saving-man hours and equipment hours.

Other hot materials handled by Spencer Vacuum include fly ash from water tube boilers, and hot slag from open hearth furnaces. Metal asbestos-lined hose and glass filter bags are available for special applications. 356-S

150 USES FOR VACUUM ... ASK FOR BULLETIN
THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT
SPENCER HARTFORD

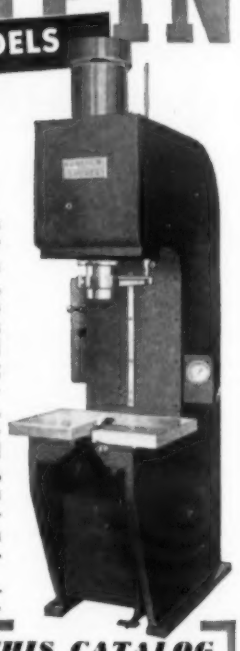
▲ For more details circle **NED-3646** on enclosed inquiry slip ▲

HANNIFIN
75 STANDARD MODELS

Hydraulic Presses

Engineered To Meet Your Requirements

IT'S EASY to get hydraulic presses engineered to meet your particular requirements when you choose from the Hannifin line. 75 standard models, plus many special designs, in capacities ranging from 5 to as high as 300 tons are available for handling standard and special production jobs: straightening—press fit assembly—forming—molding—broaching and similar operations. Hannifin design readily permits modifications or variations from standard at moderate cost. Table size, gap, reach, control equipment, and ram speed can be altered easily to suit special conditions. Take advantage of Hannifin engineering service — ask for recommendations.



Right—Model F-250 forcing press. Capacity 25 tons.

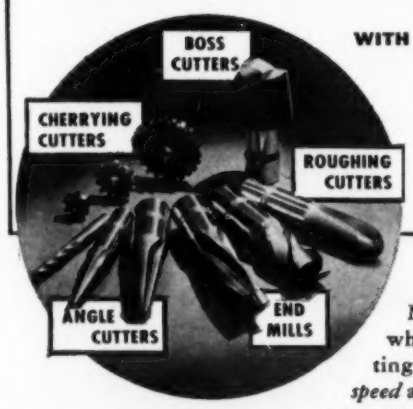
SEND FOR THIS CATALOG
BULLETIN 130, "Hannifin Standardized Hydraulic Presses," contains detailed information on Series F Forcing Presses, Series S Straightening Presses, and Series C Column Type Presses — Helpful specification and engineering data. ASK FOR YOUR COPY.

HANNIFIN CORPORATION 1127 S. Kilbourn Ave., Chicago 24

▲ For more details circle **NED-3647** on enclosed inquiry slip ▲

FASTER FEED ... LOWER COSTS!

More Work between Grinds



WITH **T-J CUTTERS**

T-J Die Sinking Milling Cutters "have what it takes" for cutting tough die steels with *speed* and *accuracy!* They're *extra sturdy* . . . hold a sharp edge longer . . . less breakage! Made from a standard, extremely high grade steel . . . properly machined . . . scientifically heat-treated and accurately ground. Wide range of styles and sizes . . . ready for your tough jobs! Send for new catalog. The Tomkins-Johnson Co., Jackson, Michigan.

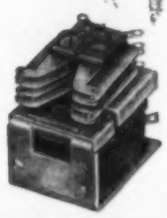
FOR TOUGH JOBS SPECIFY T-J
TOMKINS-JOHNSON
DIE SINKING MILLING CUTTERS

▲ For more details circle **NED-3648** on enclosed inquiry slip ▲

WITHSTANDS 15 G's VIBRATION while operating 35 G's SHOCK 75 G's MECHANICAL SHOCK

REVOLUTIONARY NEW RELAY

FOR MILITARY AND TOUGH COMMERCIAL APPLICATIONS



Here are miniature, low wattage d-c relays that really stand up under extreme conditions of shock and vibration. False contact operation is avoided without sacrificing desirable electrical characteristics—and at no extra relay cost. Available in any contact arrangement up to 4-pole double-throw. Open, plug-in base, metal encased or hermetically-sealed types. Write for Bulletin L2610.

STRUTHERS DUNN S.348 RELAY TYPES

STRUTHERS-DUNN, INC., 150 North 13th St., Philadelphia 7, Pa.

BALTIMORE • BOSTON • BUFFALO • CHARLOTTE • CHICAGO • CINCINNATI • CLEVELAND • DALLAS • DETROIT • KANSAS CITY • LOS ANGELES • MINNEAPOLIS • MONTREAL • NEW ORLEANS • NEW YORK • PHILADELPHIA • PITTSBURGH • ST. LOUIS • SAN FRANCISCO • SEATTLE • SYRACUSE • TORONTO

For more details circle NED-3649 on enclosed inquiry slip

WIRE MESH

Maybe it all *does* look pretty much the same at first glance. But when a firm has been making wire mesh for 70 years man and boy, there's bound to be a little more to it than meets the eye — a little more know-how in engineering and weaving, a little more quality in the product, a little more service and satisfaction for the user.

JELLIFF WIRE MESH is woven in all ductile metals

JELLIFF WIRE MESH is woven in all commercial weaves

JELLIFF WIRE MESH is woven in widths up to 72 inches

JELLIFF WIRE MESH is economical. Every foot runs true to the specifications.

★ ★ ★ ★

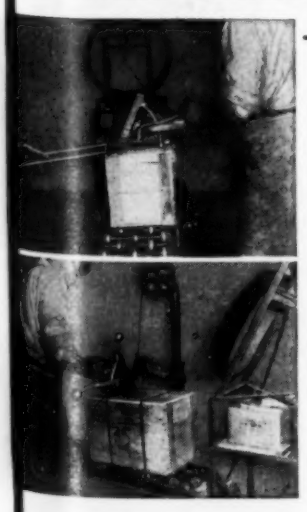
JELLIFF WIRE MESH is a quality product and has been for 70 years. You can depend on it.

Write today for full details about JELLIFF WIRE MESH, JELLIFF WIRE MESH PRODUCTS, and JELLIFF'S CONSULTATION SERVICE on wire-mesh engineering. Address Department 11.

THE C. O. JELLIFF MFG. CORP.
DIPPING BASKETS
LEKTROMESH
RESISTANCE WIRE
WIRE MESH PARTS
WIRE CLOTH
STRAINERS • FILTERS
SOUTHPORT CONNECTICUT
WIRE PRODUCTS SINCE 1880

For more details circle NED-3650 on enclosed inquiry slip

300 MORE CASES PACKED PER DAY



—AT 1/3 LOWER COST

One manufacturer found that one man *plus* Stanley *ACE STRAPPING TOOL not only upped shipping rate from 250 packages a day to 550—also freed two other shipping room employees for more productive work.

Facts and figures like these from makers of hundreds of different products *prove* Stanley Steel Strapping System slashes shipping costs to the bone. Get details on the savings it can make for you now! The Stanley Works, Steel Strapping Div., 177 Lake St., New Britain, Conn.

STEEL STRAPPING AND CAR BANDING SYSTEMS

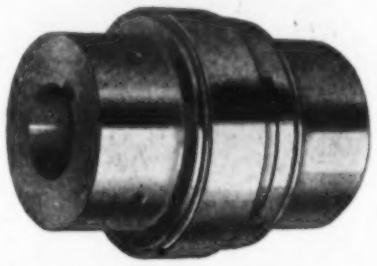
STANLEY Reg. U.S. Pat. Off.

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

For more details circle NED-3651 on enclosed inquiry slip

FLEXIBLE COUPLINGS
for use on 50 to 1000-hp machinery

Ease of installation and larger bore capacities are improvements of types C and H couplings. Inside sleeve is made in two parts to provide sleeve in each body. Collar can be installed on either half of coupling and is held in place by snap-ring. Both models instantly adjust for misalignment, shock, vibration, oscillation, surge or blacklash. Except on reversing load, half of the cushions are idlers; and load cushions can be quickly interchanged without tearing down coupling. There is no wear on metal jaws, and no lubrication is required. Couplings are available with several types of cushion materials, each adapted to particular kind of service, indoors or out. Made by **Lovejoy Flexible Coupling Co.**, 4958 W. Lake St., Chicago 44, Ill.



For more details circle NED-3652 on enclosed inquiry slip

SCRUBBABLE INTERIOR PAINT
1 gal covers up to 700 sq ft

Formulated with synthetic rubber, Satin Luminall one-coat interior paint can be applied by brush, roller or spray to painted or unpainted surfaces of plasterboard, wallboard, plaster, concrete, primed wood or metal. It is thinned with water at rate of 1 qt per gallon of paste emulsion. Paint dries in 20 minutes, is noninflammable and nontoxic, and can be washed with ordinary soap and water 30 days after application. Packaged in 1-qt, 1-gal and 5-gal cans, it is available in white and 12 pastel colors plus 8 Style Tones. Made by **National Chemical & Mfg. Co.**, Luminall Paints, 3608 S. May St., Chicago 9, Ill.

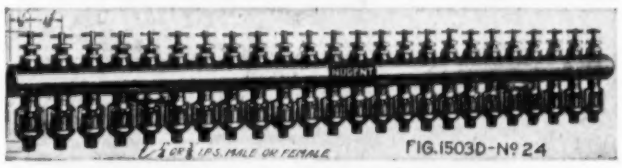
For more details circle NED-3653 on enclosed inquiry slip

AUTOMATIC SAW FILER
holder permits greater visibility

Designed to file and joint all hand, band and cross-cut circular saws, model 61 automatic saw filer employs improved type socket holder and higher lift filing arm than previous types for increased capacity. Machine is equipped with Oilite replaceable bearings and can accommodate any size from DEST files with 7/32-in. face to diamond point files with ¾-in. face which are large enough to file and joint coarse three-point saws. Saws can be fed rapidly through filer with increased stability and accuracy because of wider distance between rollers on which saw carrier rides. Made by **Foley Mfg. Co.**, Dept. F-2, 3300 N. E. Fifth St., Minneapolis 18, Minn.

For more details circle NED-3654 on enclosed inquiry slip

LUBRICATE Hard-to-Reach Spots



with NUGENT Multiple Oilers

For machinery with many enclosed or hard-to-get-at bearings, you can reduce lubrication costs with a Nugent Multiple Oiler. Oil from a pump or reservoir is piped into the Oiler and is fed to the bearings by means of tubing through independently adjustable needle valves.

Nugent Multiple Oilers are furnished in a variety of types with any number of feeds to meet every requirement.

Write for descriptive literature.

NUGENT TRADE MARK Est. 1897

Wm. W. Nugent & Co., Inc.
421 N. Hermitage Ave. CHICAGO, 22, ILLINOIS

Oil Filters, Oiling and Filtering Systems, Telescopic Oilers, Oiling Devices, Sight Feed Valves, Flow Indicators . . . Representatives in Principal Cities

For more details circle NED-3655 on enclosed inquiry slip

Power YOUR PRODUCT WITH...

- UNIDIRECTIONAL
- SYNCHRONOUS OR REVERSIBLE
- WITH OR WITHOUT GEAR REDUCTION
- UP TO 1/30 H.P.
- ENGINEERING SERVICE

for FANS, HAIR DRYERS, SPOT HEATERS, OIL BURNERS, DISPLAY TABLES, VENTILATORS, PROJECTORS, TOYS, PUMPS, VAPORIZERS, VENDING MACHINES, FACSIMILE RECORDERS

BARBER-COLMAN COMPANY ROCKFORD ILLINOIS

For more details circle NED-3656 on enclosed inquiry slip

CONTINUOUS PRODUCTION
at 250° F. to 1900° F.

HUPPERT *Model 10 Deluxe* **FURNACE** *for Laboratory and Small Unit Production*

ACCURATE, AUTOMATIC CONTROLS
Maintain temperature levels *constant*, heat after heat.

ECONOMICAL OPERATION
Special Huppert multi-insulation holds down current input, helps eliminate heat loss.

RUGGED ALL-STEEL DESIGN
Heat-resistant alloys. Heavy-gauge Kanthal elements; easy-to-handle counterweight door; removable porcelain tray; enclosed contacts. Black krinkle finish. I.D. 8" x 4" x 6" (3" throat additional). Max. current consumption, 2000 watts.

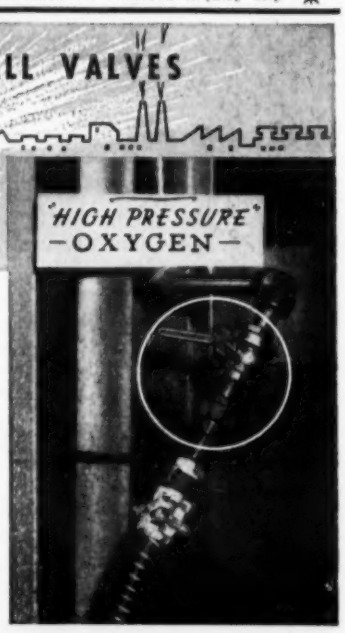
$192.00 complete

Write today for literature on the complete Huppert Line.

K. H. HUPPERT COMPANY
6838 Cottage Grove Ave.
Chicago 37, Illinois

For more details circle NED-3657 on enclosed inquiry slip

ROCKWOOD BALL VALVES HELP INCREASE STEEL MAKING CAPACITY



No place for leaky valves on this high pressure oxygen line where careful control of the flow of oxygen to the open hearth furnaces is necessary at all times.

The Rockwood Ball Valve was selected by this large steel corporation primarily for its quick turn on and off action and leak proof service. These outstanding features of the Rockwood Valve enables furnace operator to properly control the oxygen which is used for the melting process that helps increase furnace capacity.

Rockwood Ball Valves stay on the job indefinitely without leaks or maintenance. Industry after industry has found Rockwood Valves reliable — in oil refineries, food, paper, chemical and rubber plants, etc.

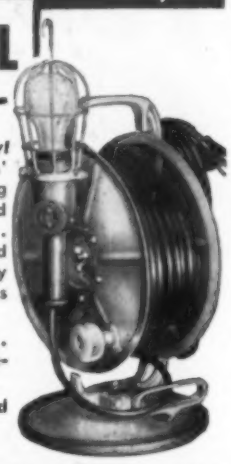
You can have Rockwood Valves in bronze in all pipe sizes from ½" to 2" for 300 p.s.i. working pressure.

1. Full round open area no turbulence in fluid stream
2. Leak proof after continued use
3. Quarter turn (90°) opening and closing valve

Write for Bulletin V-4. Distributors in all Principal Cities

ROCKWOOD SPRINKLER CO
44 HARLOW STREET WORCESTER 5, MASS

For more details circle NED-3658 on enclosed inquiry slip



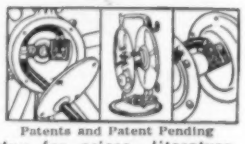
• *Handling loose cord costs you money!* Port-O-Reel eliminates kinks, knots, "birds' nests" . . . Saves up to 500% in handling time. Gives any length cord when, where, and how you need it . . . long cord handling . . . short cord ease . . . Re-wind 150-ft. of cord in 15 seconds! Cord exposed to wear only when unwound . . . makes cord last 5-times as long. Equip with any kind of cord.

• Weighs only 9-lbs. less cord and plugs . . . Reel dia. 12" . . . width 4" . . . Has free-turning winding knob.

• Available with or without cord and hand lamp.

• Has moisture-proof, running constant collector ring. Permits cord use as reel turns.

• Low, level-wind cord guide prevents kinks and knots. Balance prevents tipping. Rubber base prevents slipping.



Patents and Patent Pending

Save up to 500% on cord handling EXPENSE!

Write today for prices, literature and name of nearby distributor.
INDUSTRIAL ELECTRICAL WORKS
1504 Chicago Street Omaha, Nebraska

For more details circle NED-3659 on enclosed inquiry slip

EXAMINE THE DESIGN OF YOUR PRODUCTS AND MACHINES...

no doubt you too can save time–save materials..and increase your profits–by using NATIONAL RETAINING RINGS

These Sure Grip Screw Holding Screw Drivers, made by The Bridgeport Hardware Mfg. Corp., illustrate an obvious and a very simple application of retaining rings.

But there are thousands of other places where they will save—from such simple applications as tools, toys, small parts and small gadgets to complicated heavy duty engines, large drill presses, etc.

And in addition to their economy, they frequently improve your products.

These inexpensive, yet very efficient, artificial shoulders are widely used, and these uses are increasing daily.

It's wasteful to cut down shafts to make shoulders. Redesign to groove smaller shafts and housings and use these high grade steel rings.

Let our engineers consult with you. Send for folders.

Don't pass up this opportunity to increase profits.

THE NATIONAL LOCK WASHER CO.
NEWARK 5, NEW JERSEY MILWAUKEE 2, WISCONSIN
NATIONAL

For more details circle NED-3660 on enclosed inquiry slip

ELECTRIC HOIST available in capacities to 2000 lb

Magnetic lower limit switch incorporated in improved line of P&H Zip-Lift electric hoists prevents cable from running off drum and rewinding itself. Extra ground conductor on feeder cable eliminates possibility of short-circuit. Reinforced pushbutton pendant provides extra protection in cases where operators move heavy loads along jibs and trolleys by pulling pushbutton cable. Grooved drums contribute to long cable life. Made by **Harnischfeger Corp.**, Hoist Div., 4537 W. National Ave., Milwaukee 14, Wis.

For more details circle NED-3661 on enclosed inquiry slip

FORK LIFT TRUCK in 4000 and 6000-lb capacities

Line of Motowlift fork lift trucks (*See NED Feb. '48*) has been extended with addition of heavy-duty models having dual pneumatic tires. Ample power is supplied by Ford 6-cylinder industrial engine having 226-cu in. displacement. Heavy-duty Timken integral drive axle and constant mesh transmission and Borg-Warner clutch that can be replaced without removing engine or transmission are incorporated. Also included are single lever lifting and tilting control and single lever automotive type gear shift.

Carriage is equipped with eight hardened antifriction rollers, and two lifting chains have strength of 24,000 lb each. Variety of lifting heights can be supplied. Other features include grouping of instruments and gages beneath steering wheel, Ross steering mechanism, hydraulic brakes and high pressure lubrication. Made by **Service Caster & Truck Corp.**, 578 N. Brownswood Ave., Albion, Mich.

For more details circle NED-3662 on enclosed inquiry slip

DO YOU KNOW? Mirror-smooth poured concrete exterior walls and interior ceilings are possible without rubbing or grinding by using forms of newly developed plywood surfaced with clear, smooth Monsanto plastic. These abrasion resistant panels can be reused as many as 50 times if handled with moderate care. Made by St. Paul & Tacoma Lumber Co., Tacoma, Wash.

For more details circle NED-3663 on enclosed inquiry slip

HERE'S LOWEST COST WAY TO HANDLE SHOP LIQUIDS

PHILLIPS Quart and Gallon Stroke BARREL PUMPS

Phillips single stroke, hand operated Barrel Pumps are available individually or as complete Phillips Tank-Units—Can be plated to withstand corrosive liquids. Save time—prevent waste with low-cost, dependable Phillips Barrel Pumps.

FOR COOLANTS—LUBRICANTS

Model 19 — quart stroke, swing return drain. Adjustable intake. Threaded for 1½ and 2" openings.

Model 174 — gallon stroke, quantity stops, adjustable suction. Threaded for 1½ and 2" drum openings.

Model 81 — gallon stroke pump on 65 gallon tank — ideal for battery installation. Can be supplied with casters or dolly. Other sizes are available.

Write for prices and FREE Catalog—today!

PHILLIPS PUMP & TANK CO.
5020 Brotherton Rd. Cincinnati 9, Ohio

For more details circle NED-3664 on enclosed inquiry slip

30% of a Product's Cost is often spent for handling material

HI-CARBON TRACK

INDUSTRIAL MONORAIL and CRANES may be your solution

• Industrial Monorail Track is rolled of high carbon manganese steel in standard I beam shapes.
• Tapered treads help center the load to reduce flange friction and wear.
• Increasing track flange thickness at web of the track gives added strength where flange bending movement is greatest.

INDUSTRIAL EQUIPMENT CO.
327 NORTH ADA STREET CHICAGO 7, ILLINOIS

For more details circle NED-3665 on enclosed inquiry slip

PREVENT UNNECESSARY WORK STOPPAGES

JEFFERSON SAF-T-LAG Thermal FUSE

Jefferson Saf-T-Lag's *safe time delay* insures against damage to equipment thus safeguarding against costly replacements and unnecessary work stoppages. Machinery is kept on the job for maximum output; factory production is maintained. CAPACITIES: Ferrule type 1 to 60 Amperes, 250-V and 600-V; Knife-Blade type 70 to 600 Amperes, 250-V and 600-V

Write for complete data in Fuse Booklet 482-ST.

JEFFERSON ELECTRIC COMPANY
Bellwood, Illinois

For more details circle NED-3666 on enclosed inquiry slip

New POCKET SIZE VOLT-OHM-MIL-AMMETER
MODEL 666R
$24.50
U. S. Dealer Net
With Self-contained Resistance Ranges to 3 Megohms

NOTE THESE SPECIAL FEATURES

Resistance Ranges—0-3000 Ohms to 3 Megohms, self-contained.

Enclosed Selector Switch—molded construction. Keeps dirt out.

Unit Construction—Resistors, shunts, rectifier, batteries, are housed in molded base integral with switch. Direct connections without cabling. No shorts.

Resistors—Precision film or wire-wound types, each in its own compartment.

Batteries easily replaced—Positive grip coil spring, permanent contact.

Streamlined Styling—Handsomely designed, pocket-size case. Only two controls, both flush with panel.

See your Radio Parts Distributor or write

TRIPLETT ELECTRICAL INSTRUMENT COMPANY
Bluffton, Ohio, U. S. A.

In Canada: Triplett Instruments of Canada Georgetown, Ontario

RANGES:

D.C. VOLTS: 0-10-50-250-1000-5000, at 1000 Ohms/Volt.

A.C. VOLTS: 0-10-50-250-1000-5000, at 1000 Ohms/Volt.

D.C. MILLIAMPERES: 0-10-100, at 250 Millivolts.

D.C. AMPERES: 0-1 at 250 Millivolts.

OHMS: 0-3000-300,000 (20-2000 at center scale)

MEGOHMS: 0-3 (20,000 Ohms center scale)

Precision first...to Last

TRIPLETT

For more details circle NED-3667 on enclosed inquiry slip

READY TO STAKE CUT SWAGE CRIMP RIVET MARK

ELECTROPUNCH

A LIGHTNING-FAST ELECTRIC IMPACT HAMMER

The Production Tool with 1000 uses—

- Low Priced
- Plug-in Units
- Controllable impacts up to a ton
- Higher power units engineered

BLACK & WEBSTER, INC.
301 PLEASANT STREET, NEEDHAM 92, MASS.

For more details circle NED-3668 on enclosed inquiry slip

OPTICAL PROJECTOR has accurate triple purpose screen

In addition to serving as measuring instrument with readings in increments of 0.0001-in. in two planes at 90 degrees, universal projector provides both contour and front-surface projection of subject being measured. It is available in standard magnifications of 10, 20, 30, 45 and 60 power as well as any special magnification up to 120 power. Screen is 6 in. square and is supplied with single vertical and horizontal cross lines. Additional lines or layouts can be added quickly by means of scribe and vernier height gage. Measuring stage has 1-in. travel in two planes at 90 degrees and is 5 in. square. Since projection hood can be raised or lowered by hardened steel V-drive, parts up to 5 in. high can be measured. Made by **Stocker & Yale,** Association Bldg., Marblehead, Mass.

For more details circle NED-3671 on enclosed inquiry slip

NEW! Volatile Solvent

CARBON MET

A HALOGENATED AROMATIC HYDROCARBON

A specific replacement for toxic Carbon Tetrachloride

Out and out metal dry cleaning solvent and degreaser in ready-to-use "Handy Kit" containing Patented dip and drier basket.*

U. S. Pat. 2318812

- Quick-Cutting Solvent against stubborn dirt and grease.
- Non-Explosive and relatively non-toxic.
- Non-Corrosive to metals.
- Fast, clean evaporation.
- Non-Ionic . . . ideal for degreasing and cleaning electrical parts.

MUCH FASTER CUTTING THAN "CARBON TET" . . .
CAUSES NO RUSTING . . . LEAVES NO FILM

*also economical 55 gal. size drum

IMMEDIATE DELIVERY 1 GALLON OR A TANK CAR

CURRAN CORP. Mfg. Chemists LAWRENCE, MASS.
120 South Canal St.

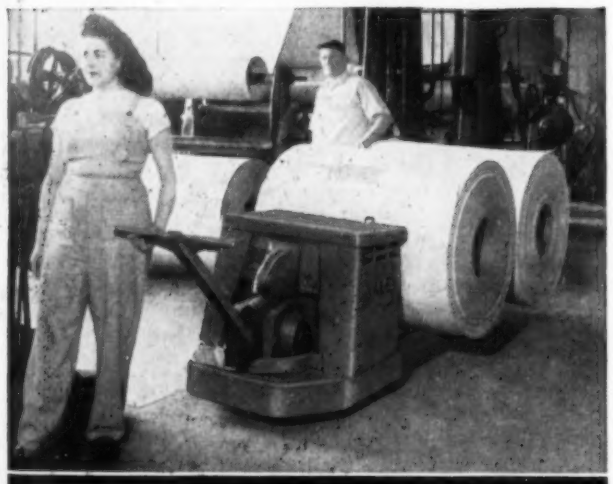
For more details circle NED-3675 on enclosed inquiry slip

MOVE 3 TONS 176 FEET IN 60 SECONDS

you can do it with a Yale Worksaver electric lift truck

- Electric power does all the heavy work.
- Operator strolls and steers.
- "Safety first" design—brake goes on, power goes off when handle is vertical or horizontal.
- Battery power for two days' operation before recharging.
- Ten types available. Capacities to 6,000 lbs.

WRITE FOR LITERATURE

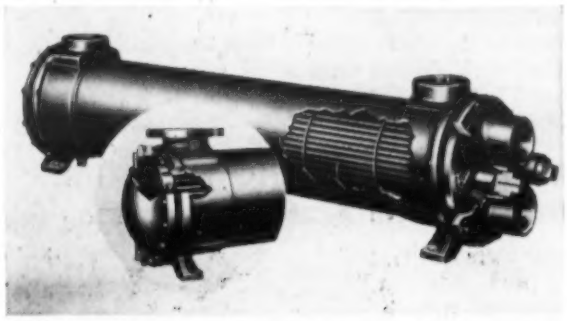


YALE THE YALE & TOWNE MANUFACTURING CO.
Roosevelt Boulevard • Philadelphia 15, Pa.
HAND LIFT AND POWER TRUCKS • HAND AND ELECTRIC HOISTS • INDUSTRIAL DIAL SCALES

For more details circle NED-3669 on enclosed inquiry slip

COPPER HEAT EXCHANGER utilizes removable tube bundle

Originally developed for use in naval combat vessels, redesigned type BCP exchanger affords high heat transfer surface and thermal efficiency for industrial as well as



marine applications. Features include all copper and copper alloy construction to withstand corrosion, removable tube bundle for ease of inspection and maintenance, and packed floating head with positive safeguard against mixing of fluids. Single and two-pass types are available in wide range of sizes with screw and flanged connections. Made by **Ross Heater & Mfg. Co.,** 1399 West Ave., Buffalo 13, N. Y.

For more details circle NED-3672 on enclosed inquiry slip

DO YOU KNOW? Finished rayon yarn is now produced in 3½ minutes, from viscose solution to bobbin, by the Kuljian continuous spinning and processing machine. Usual 'pot-spinning' method requires four to five days. High quality commercial yarn is turned out at high production rate at relatively low cost. Machine developed by Kuljian Corp., 1200 N. Broad St., Philadelphia 21, Pa.

For more details circle NED-3673 on enclosed inquiry slip

MERRILL LIFTING CLAMPS

THE HEAVIER THE LOAD THE TIGHTER THE GRIP!

Safer and Speedier Lifting at Less Cost...have made MERRILL-Volz LIFTING CLAMPS the choice of large Steel Mills everywhere.

SAFER
- Safety factor of 5 to 1.
- Factory tested at double rated capacity.

GREATER SPEED AT LESS COST
- Entirely Drop Forged and Heat Treated.
- Working parts entirely enclosed.
- Pins do not rotate in frame eliminating wear.

Available in Stainless Steel.
Sold by Better Distributors Everywhere.

MERRILL BROTHERS
56-13 Arnold Ave., Maspeth, N. Y.
FINE FORGINGS SINCE 1864

Producers of DROP FORGED SHACKLES, CLEVIS NUTS, TURNBUCKLES & EYE BOLTS.
Write for new CATALOG 10

For more details circle NED-3676 on enclosed inquiry slip

4 TIMKEN BEARINGS!

Kalamazoo

METAL CUTTING BAND SAW

KALAMAZOO MODELS — 816 S — 824 S (COOLANT EQUIPMENT AVAILABLE)

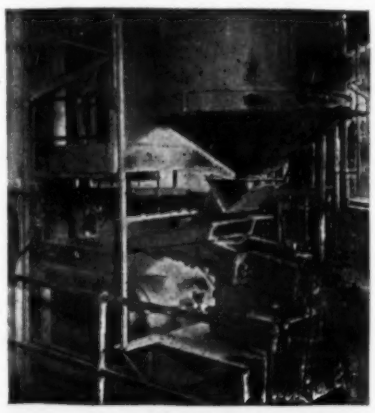
Only Kalamazoo offers an all Timken bearing drive unit for longer, smoother-running cutting performance!—an engineering exclusive typical of the sturdy, rugged Kalamazoo construction. Cuts bars, angles, tubes, pipe, and odd shapes. Leaves no burr, minimum kerf. Change blades in 30 seconds. "Full view" of any cut. Write today for full details on lower cost metal cutting the Kalamazoo way!

MACHINE TOOL DIV. Kalamazoo TANK and SILO CO.
524 HARRISON STREET • KALAMAZOO 16, MICHIGAN

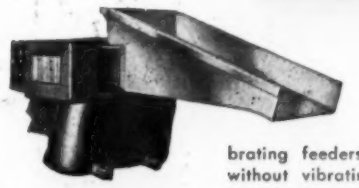
For more details circle NED-3670 on enclosed inquiry slip

ELECTRIC VIBRATING FEEDERS

Ideal for absolute control over feeding operations. They give a new conception to feed control—rate can be changed at will—no mechanical adjustments required—nothing to wear out or lubricate. Power consumption low. All sizes—handle from a few ounces to many tons per hour.



J-T WAYTROL feeder in large food plant—quantity of delivery regulated—weight recorded.



Left — One of the small Jeffrey-Traylor electric vibrating feeders. Can be furnished with or without vibrating hopper. Capacity can be varied instantaneously—remote control if desired.

Send for complete information

JEFFREY
THE JEFFREY MANUFACTURING CO.
952 Fourth St., Columbus 16, Ohio

For more details circle NED-3674 on enclosed inquiry slip

SCREWS

Machine, Wood, Cap, Lag, Set, Knurled and Thumb Screws

Brass, Bronzes, Aluminum, Monel, Stainless Steels

Large stocks ready for immediate delivery from distributors and warehouses in principal cities.

FREE STOCK LIST

The H. M. Harper Company,
8212 Lehigh Ave.
Morton Grove, Ill.

Please rush your current stock list of non-ferrous and stainless steel fastenings showing quantities, sizes and types available for immediate shipment.

Name.....
Company.....
Address.....
City.....Zone.....State.....

For more details circle NED-3677 on enclosed inquiry slip

Tap #0 to 3/4" with . . . 1

Commander TAPPER

The Commander Tapper's exclusive torque control thinks for its operator—automatically stops when taps are dull, overloaded or strike bottom in blind hole tapping.

You get maximum tap protection because the torque control can be set to protect all taps in the range from #0 to 3/4".

Spring clutch drive eliminates slippage and wear—provides smooth, quiet, easy operation.

Commander Tappers are furnished to fit any drill press.

Write for illustrated circular and name of nearest DISTRIBUTOR.

ANY OPERATOR DOES PRECISION TAPPING WITH A COMMANDER TAPPER

Product of Commander builder of the Multi-Drill

COMMANDER MFG. CO.
4220 W. KINZIE ST.
CHICAGO 24, ILL.

▲ For more details circle NED-3678 on enclosed inquiry slip ▲

NOW!

McGILL Levolier® No. 41

Levolier Model 41

GUARANTEED Unconditionally

• Levolier Model 41 6 Amp. "T" rated, 125 volt switch is unconditionally guaranteed when used in lighting circuits. In case of failures a new Model 41 switch will be furnished without charge.

When you install Levolier Model 41 switches in lighting circuits, you've installed the switch that will not fail. No kickbacks or complaints. Just dependable, always-working performance. In fact, the patented Levolier action is so positive that the No. 41 is unconditionally guaranteed*. Thousands of Model 41's, in use for years, prove this true. The small, compact size makes it ideal for use in modern lighting fixtures, as well as for FHP motors.

A new Levolier Model 71—This 6 amp 125 volt, "T" rated switch has a molded plastic case less than 1/2" thick. Pressure connected six inch wire leads provide fast, easy installation.

Available From Your Electrical Wholesaler

For McGill Catalog No. 49 write to McGill Mfg. Co., Inc., 151 N. Campbell St., Valparaiso, Indiana.

McGILL® electrical specialties

ONLY McGILL MAKES Levolier SWITCHES

▲ For more details circle NED-3679 on enclosed inquiry slip ▲

CUT 100 KEYWAYS

in gears, milling cutters, pulley hubs, collars, couplings, etc.

FOR ONLY $8.25

the cost of a Minute Man® Broach and Bushing

CLIP AND MAIL THE COUPON

for info on *Minute Man* Kits for keyways from 1/16" to 3/4" wide, in bores from 1/4" to 3" by 1/16" steps.

The du MONT CORPORATION
Greenfield, Mass.

Please mail me Descriptive Folder and Price List "D"

Name .....

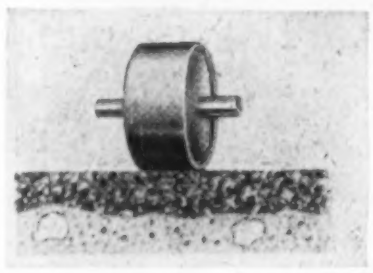
Company .....

Address .....

▲ For more details circle NED-3680 on enclosed inquiry slip ▲

New Processes and Materials

EMERY STONE FLOOR RESURFACER for old or new concrete base slabs



Composed of crushed natural emery stone, integral hardener and fast curing cement, Emerite flooring provides high strength and resistance to destructive attacks in layer only 3/4-in. thick. Packaged in 100-lb paper sacks, material is applied directly to concrete slab after mixing with water. Because of its fast curing properties, floor can be put into service within 24 hours. It is recommended for severe traffic and for outstanding resistance to acids, oils, molten metal spillages, and other destructive attacks. Made by **Flash-Stone Co.**, 3725 Pulaski Ave., Philadelphia 40, Pa.

▲ For more details circle NED-3681 on enclosed inquiry slip ▲

FAST-CURING PHENOLICS for compression and plunger molding

Producing high gloss moldings, Bakelite C-22 general purpose fast curing phenolic molding materials have excellent mold release quality. Plastics can be pressed into finished parts in compression and plunger equipment with saving of from 15 to 50 per cent in time of cure over previous fast-cure types. Made by Bakelite Div., **Union Carbide & Carbon Corp.**, Dept. NE, 30 E. 42nd St., New York 17, N. Y.

▲ For more details circle NED-3682 on enclosed inquiry slip ▲

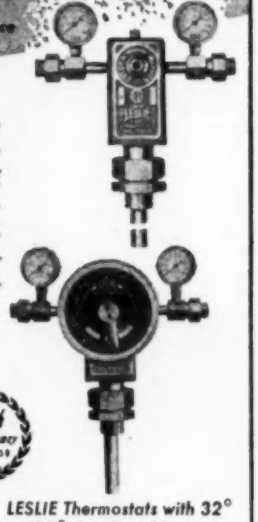
CORRUGATED WRAPPING MATERIAL is supplied in protective carton

For easier shipping, handling and storing, Chippaflex single-face corrugated packaging material can now be furnished in corrugated carton. It can be supplied in rolls from 6 to 72 in. wide, in sheets, and as Chippatubes which are rolled up tubes in various convenient sizes and lengths. Material in its protective carton is shown at left in illustration, and at right is unpacked roll that shows effects of mishandling and deterioration in transit and storage. Cartons can be stacked sideways as well as higher than unpackaged rolls. Made by **Chippewa Paper Products Co.**, Dept. D, 3315 W. 48th Place, Chicago 32, Ill.

▲ For more details circle NED-3683 on enclosed inquiry slip ▲

Reduce Water Bills and Maintenance Costs with the New LESLIE THERMOSTAT

Specially designed for cooling water service with greatly increased throttling range



It is a recognized fact that water cooled equipment, performs better and requires less maintenance if cooling water temperature is accurately maintained. New LESLIE Thermostat and Diaphragm Regulating Valve make an ideal Temperature Controller for this service.

Features

THROTTLING RANGE
BI-METALLIC ELEMENT
SIMPLE
RUGGED, RELIABLE

50th Anniversary 1900–1950

LESLIE Thermostats with 32° —400° F adjustable range and with calibrated dial.

Send For — Bulletin 464-B

ESTABLISHED 1900 LESLIE CO.

227 Grant Ave., Lyndhurst, New Jersey

PRESSURE REDUCING VALVES • PRESSURE CONTROLLERS
FLOATLESS LEVEL CONTROLS • PUMP GOVERNORS
TEMPERATURE REGULATORS • SELF CLEANING STRAINERS
AIR HORNS • STEAM WHISTLES

▲ For more details circle NED-3684 on enclosed inquiry slip ▲

SYNTRON "Pulsating Magnet"

ELECTRIC VIBRATORS

Keep Material Moving — out of bins, hoppers and chutes

3600 powerful, pulsating vibrations per minute break down arching and plugging—eliminate pounding and sleding.

Available in 8 different sizes—from a little 4 lb. model up to a big 660 lb. model.

Write for literature or send us a dimensional sketch, giving gauge of hopper walls, etc.

SYNTRON CO., 405 Lexington, Homer City, Pa.

▲ For more details circle NED-3685 on enclosed inquiry slip ▲

No Moisture Removal System is Complete . . . without Economical Armstrong Air Traps

No. 71 Snap Action Trap $30.00

No. 21 Ball Float Trap $11.00

No. 213 Inverted Bucket Trap $20.75

KEEP your expensive moisture removal equipment at top efficiency—automatically drain these vital units of the moisture they collect with low cost Armstrong Air Traps. Armstrong traps on separators, aftercoolers, etc., save you air, time and labor, eliminate human failure.

Ruggedly built, these units are available in three types, ball float, snap action or inverted bucket models to give you best service for a given condition.

Bulletin No. 1433 gives the details.

Local stocks mean quick delivery. Act today.

ARMSTRONG MACHINE WORKS
819 Maple St. • Three Rivers, Michigan

ARMSTRONG Air TRAPS

▲ For more details circle NED-3686 on enclosed inquiry slip ▲

With DAYTON ROGERS

LAYOUT FLUID

Speed up your lay-out work time, relieve eye-strain and improve accuracy. No time wasted polishing surface. Just wipe off and apply this deep Die Blue with brush. DRIES INSTANTLY! Use on steel, brass, aluminum, stainless steel, tin, copper. Also splendid for periodic piece inspection to check accuracy of production runs, all tool work, etc.

DAYTON ROGERS Manufacturing Company
MINNEAPOLIS, 7, MINN.

SEND FOR YOUR FREE SAMPLE

▲ For more details circle NED-3687 on enclosed inquiry slip ▲

WANTED!

TOUGH METAL CUTTING JOBS BY Molyflex STAR'S NEW SHATTERPROOF HIGH-SPEED BLADES

Eat their way . . . easier . . . faster . . . through any metal cutting job you may have!

In recent tests these hand blades averaged 23.8% more metal cut than all leading brands tested. Absolutely shatterproof! A cinch to help you cut costs and speed up those tough metal cutting jobs.

STAR STEELRITE METAL MARKING CRAYONS

Try Star's new metal marking crayons. Ideal for use on hot, cold, damp or grimy metal. Withstand pickling, yet do not affect enamel application.

Star's Metal Cutting Booklet and Wall Chart are yours for the asking and will help you get top efficiency from hack saw blades.

5832

CLEMSON Bros., Inc. • Middletown, N.Y.

MAKERS OF HAND AND POWER HACK SAW BLADES, FRAMES, METAL

For more details circle NED-3688 on enclosed inquiry slip

Fills long awaited need for medium weight Drill Press

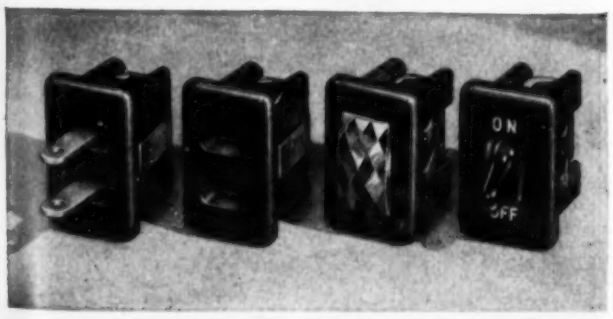
Sensitive machine with 25" swing for production, yet suitable for maintenance. Variable speed drive —select exact speed for any size drill from 1/8" to 1"—tachometer shows spindle speeds. 1½ H.P. motor. Five spindle speed options, from a low of 206—825 R.P.M., to a high of 540—2160 R.P.M., with 3 phase 60 cycle motor. Oil groove table accuracy maintained to .0007" in 6 inches. Splined spindle and driving sleeve are ball bearing equipped. Wt. 765 lbs.

Write for Catalog No. 69

SIBLEY MACHINE & FOUNDRY CORP.
85 East Tutt St., South Bend 23, Ind.

For more details circle NED-3689 on enclosed inquiry slip

New, Improved H Snap-Ins



AGAIN LEAD THE WAY TO COST-SAVING AND BETTER PERFORMANCE IN YOUR PRODUCTS

"Diamond H" Snap-Ins . . . toggle switches, convenience outlets, pilot lights and inter-connecting load plugs . . . have always been tops for performance and for cost-saving on users' assembly lines. Just snap them into their holes, spring clips hold them tight. Wire them up before or after.

NOW . . . NEW IMPROVEMENTS MAKE THEM BETTER THAN EVER!

● *All* . . . have wider face areas with wider flanges. Greater overlap eliminates need for exacting tolerances in porcelainizing or other finishing around 21/32" x 17/32" installation holes.

● *Switches* . . . operate on principle new and exclusive in this application. In "on" position, contacts are held together under pressure of spring action to assure positive, *unfailing* action. Ratings: 15 and 20 A.—125 V.; 10 A.—250 V., A.C. also H.P. ratings.

● *Pilots* . . . with larger, *faceted* lenses, give greatest light output of any comparable pilots on the market. Rated 115 V. or 230 V., A.C.

● *Convenience Outlet* and *Inter-Connecting Load Plug* . . . like all "Diamond H" products . . . are ruggedly built for long service, in black, white, brown or special color plastic for top appearance in your product.

Write today for complete details on how "Diamond H" Snap-Ins will help you make a better product at lower cost.

THE HART MANUFACTURING COMPANY
204 Bartholomew Ave., Hartford, Conn.

For more details circle NED-3690 on enclosed inquiry slip

New Processes & Materials

TRANSLUCENT PLASTIC TUBING safely handles foods and chemicals

Developed especially for use in chemical and food processing industries, Carlon C plastic tubing is corrosion resistant, lightweight, flexible and contains no pigments that might be absorbed by certain chemicals. Other applications include use in air conditioning and refrigeration equipment, instruments and radiant heating systems and transmission of highly corrosive gases and vapors. Tubing withstands temperatures from −50 to 140° F. Sizes from ¼ to 1-in. are furnished from stock in 100-ft coils, and coils of up to 500 ft can be supplied on order. Made by **Carter Products Corp.**, 10237 Meech Ave., Cleveland 5, O.

For more details circle NED-3691 on enclosed inquiry slip

RUST PENETRATING FLUID frees rusted or frozen parts

Rust and corrosion of all types are penetrated and disintegrated instantly by Du-Ol fluid. Containing no acids, gasoline, kerosene or other inflammable or toxic materials, it can be used safely near open flame and will not harm skin. Fluid can be used also to clean machinery, tools and parts and to relieve sluggish and sticky engine valve action. Small quantity is added to carburetor. Made by **Supersite Corp.**, Dept. Du-Ol, 384 Canal Place, New York 51, N. Y.

For more details circle NED-3692 on enclosed inquiry slip

ALL-METAL SOLDER is nonreactive metallic combination

Showing high degree of fluidity when used with soldering iron, Farco All Metal solder is resistant to atmospheric, alkaline and acid corrosion. Molten at 435° F, solder makes close-grain watertight bond on such difficult metals as aluminum when used with ASMC All Metal flux. Stainless steel, Inconel and Monel can be readily soldered also. Material is easily applied and forms bond with high tensile strength. It is supplied in ⅛-in. extruded wire form and wound on spool. Made by **Farrelloy Co.**, 1246 N. 26th St., Philadelphia 21, Pa.

For more details circle NED-3693 on enclosed inquiry slip

New CONGRESS LUBRALIFE PILLOW BLOCKS

Permanently Lubricated Self-Aligning

Thoroughly tested! Thoroughly proved! Handle heavier loads at higher speeds than conventional sintered bronze bearings, because the entire bearing cartridge is the revolutionary Haller Oil Well bearing of sintered "super" bearing metals.

You can throw away that dirty, messy oil can! Congress Pillow Blocks never require oiling, yet there is no oil drip. They are rust free, quiet, trouble free, easily installed.

The Congress Lubralife design insures perfect alignment. The rugged construction, heavy load capacity make them adaptable for many applications otherwise requiring more expensive bearings. In normal operation, they will *outlast* the equipment on which they will be used.

Now available for ½", ⅝", ¾", and 1" shaft sizes. Other sizes can be supplied in production quantities. Oil resisting rubber grommets equipped with static dissipator, to prevent transmission of any vibration of the rotating parts, are also available.

The test tube at the right shows the *actual amount* of oil contained in a 5/8" bore Lubralife bearing.

Write for Literature.

CONGRESS DIAMOND BORED DRIVES
3750 E. OUTER DRIVE, DETROIT 34, MICH.

For more details circle NED-3694 on enclosed inquiry slip

GRIND TOOL RELIEF *fast — accurately* IN YOUR SHOP!

CIRCULARITY GRINDING ATTACHMENT

The Circularity-Grinding Attachment now makes it easy to produce accurate tools that were previously impossible to make. If you have tools that now cannot be made in your shop, try the Circularity-Grinding Attachment.

The Circularity-Grinding Attachment will produce accurate and uniform relief, form and/or radial, on tools with straight or tapered cutting edges, straight or spiral flutes and right or left hand cut without special cams or holding fixtures. The amount of form and radial relief can be adjusted independently from .0002" to .100", and tools may be ground in a collet chuck or between centers.

Because the unit is accurately indexed for any number of flutes from 1 to 24, it is ideal for sharpening hobs. Circularity-Grinding Attachment fits on any standard universal or cutter grinder and can also be used to produce special tools and to salvage tools.

Send for FREE BULLETIN

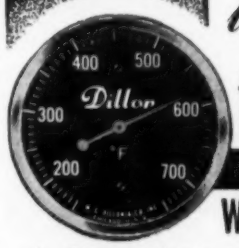
DETROIT REAMER & TOOL CO.
Mfrs. of Special High Speed Cutting Tools
2832 East 7 Mile Rd. Detroit 34, Michigan

For more details circle NED-3695 on enclosed inquiry slip

FOR ACCURACY

PRECISION DILLON THERMOMETERS OFFER THE FINEST IN SCIENTIFIC HEAT CONTROL

These carefully engineered instruments can be screwed into tanks, boilers, stacks, pipes, etc. Come in stem lengths of 5" or 9" with special lengths to order. Dials are 3" or 5" with large, easy to read figures. Made of 18-8, acid resistant stainless steel. FOUR ranges: 0-200°F, 50-500°F, 150-750°F, 200-1000°F. Also available in Centigrade equivalent. Dillon Engineers are glad to adapt this unit to your manufactured products. Write today for folder and low price schedule.



the **DILLON** *dial* STAINLESS STEEL **thermometer**

W. C. DILLON & CO. 5410-NE W. Harrison St. CHICAGO 44, ILLINOIS

For more details circle NED-3696 on enclosed inquiry slip

for easier **MATERIALS HANDLING**

STRONG! TOUGH !! LIGHT !!!

TRUCKS & TOTE BOXES

You can't get more wear or longer life from any other type of tote box or truck, than you get *built right in* these lightweight, vulcanized and reinforced

BAL PLASTIC FIBRE PRODUCTS

So light that girls can handle them loaded with lightweight parts; sturdy enough to carry heavy parts and defy constant usage and drudgery. Double-strength corners; steel "elbows" to ward off damage. Hard smooth surfaces with no rough edges. Made in all sizes. Catalog shows many types of trucks; tote boxes for many industrial needs. *Send for details!*

BAL "BUILT WITH A CONSCIENCE"

WILLIAM BAL CORPORATION
11 Johnson Street, Newark 5, N. J.

For more details circle NED-3697 on enclosed inquiry slip

ROLLAWAY SEMI-LIVE SKIDS AND JACKS

FEATURING THE RE-NU TOP

Steelbound Rollaway Skids combine the best features of bolted and welded designs. The frame supporting members are arc-welded, and the *renewable* hardwood deck is tightly clamped with steel bolts of extra tensile strength. Welded-in, heat-treated, steel connecting pin. Semi-steel rubber-tired or Flor-Savr wheels with Hyatt roller-bearings, heat-treated steel axles.

CAPACITIES: 1500, 2500, and 5000 POUNDS

YALE AND TOWNE ROLLAWAY JACKS are stocked at the Lanham Company's plant and are sold and shipped directly from Louisville for use with ROLLAWAY SKIDS.

SECTIONAL BINS RE-NU TOP SKID PLATFORMS SKID BOXES

THE LANHAM COMPANY

Magnolia & 12th Sts., Louisville, Kentucky

For more details circle NED-3701 on enclosed inquiry slip

BABY BUNTING PREFERS TUFFLEX*!

Rabbit skins aren't even in the running when compared with the fleecy-soft resilience of Tufflex Protective Padding! That's why Tufflex—the remarkable *felted* wood fiber material—is widely used where products must be protected from marring and heavy impact blows. But that's only ONE of the many uses for Tufflex! Tufflex provides superior cushioning for upholstered furniture and other products...is highly efficient for thermal insulation and sound deadening. Obtainable in moisture resistant, fire retardant and moldproof forms, Tufflex easily cuts to any size or shape. Get all the facts about Tufflex—Write us!

*REG. U. S. PAT. OFF.

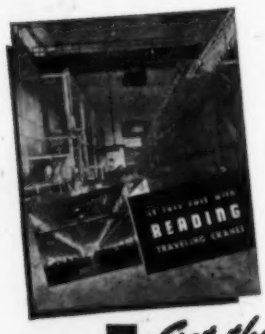
WOOD CONVERSION COMPANY

DEPT. 127-50 FIRST NATIONAL BANK BLDG., ST. PAUL 1, MINNESOTA

For more details circle NED-3702 on enclosed inquiry slip

FOR THE CRANE & HOIST USER...

"The WHY and HOW of Faster Production"



If you're searching for new ways to reduce materials handling costs . . . If you want to check your handling operations against installations in *other* plants . . . here's information you'll want! The 16-page booklet "The *WHY* and *HOW* of Faster Production" shows, through photos and sketches, how you can improve crane performance and reduce costs through a unique method of "tailored" crane construction. Mail coupon today.

Get this Information NOW!

READING HOISTS & CRANES

Reading Chain & Block Corp.
2113 Adams St., Reading, Pa.

Please send us your free booklet "The *WHY* and *HOW* of Faster Production". I understand there is no obligation.

Name_____ Title_____

Company_____

Address_____

City_____ Zone_____ State_____

For more details circle NED-3703 on enclosed inquiry slip

New Processes & Materials

NICKEL-CLAD COPPER WIRE is resistant to heat and corrosion

Combining good electrical conductivity of copper with heat and corrosion resistant properties of nickel, Kulgrid nickel-clad copper wire is obtainable in diameters from 0.010 to 0.005-in. These sizes are particularly suitable for stranding and for lead wire applications where high temperature working of hard glass frequently renders solid copper wires brittle and unworkable, as in processing of high wattage incandescent lamps and electron tubes. Stranded conductors of this wire can be used as electrical leads for aircraft, electric furnaces, appliances, jet engines and wide variety of laboratory and industrial equipment. Made by **Sylvania Electric Products Inc.**, Parts Div., 218 East St., Warren, Pa.

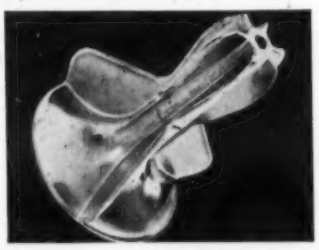
For more details circle NED-3704 on enclosed inquiry slip

IMPREGNATED CONVEYOR BELTING handles many types of materials

Capable of handling elevating and conveying requirements for many commodities ranging from food to gravel, Supreme all-purpose belting can be obtained in four styles, variety of thicknesses and widths up to 48 in. It is made from woven cotton duck impregnated with neoprene and will withstand severe operating conditions. Belting is waterproof, sanitary and resistant to mineral, vegetable and fruit acids and oils. It can be cleaned easily with boiling water or steam. Made by **Victor Balata & Textile Belting Co.**, 57 Park Place, New York 7, N. Y.

For more details circle NED-3705 on enclosed inquiry slip

ALUMINUM CASTING PROCESS produces smooth hard surfaces



By sealing pores of casting, Velvaglaze for aluminum permanent mold castings produces dense surface and increases wearing qualities of cast parts. Illustrated agitator for clothes washer is typical application of this process. Agitator has no sharp edges or rough spots to snag or tear fabrics; and its finish resists corrosive action of hard water, harsh soaps or detergents. Tests indicate that surface remains bright and free from discoloration for longer periods of time than do conventional surfaces. Castings made by **Monarch Aluminum Mfg. Co.**, 9305 Detroit Ave., Cleveland, O.

For more details circle NED-3706 on enclosed inquiry slip

10 POWER MACHINES IN ONE!

1. RADIAL ARM SAW

That's what you have (and more) when you own a flexible, all-purpose DeWalt. It's fast, accurate, safe—built for continuous service. Write for catalog.

DE WALT INC.
125 Fountain Avenue,
Lancaster, Penna.

For more details circle NED-3707 on enclosed inquiry slip

How you can REPAIR CONCRETE FLOORS QUICKLY

Fill up cracks, ruts, shallow holes, uneven spots, etc. in concrete floors with Smooth-On No. 7B Quick Floor Patch Cement. The patch will harden quickly, adhere strongly to an old floor, and is ready for use as soon as it is hard.

Anyone can apply Smooth-On No. 7B by following the simple directions that come with it. The patches will stay tight, because Smooth-On No. 7B expands slightly as it hardens and wedges the patch securely in place.

Order Smooth-On No. 7B Quick Floor Patch Cement in 5-, 20- or 100-lb. size.

FREE Floor Patch Folder and Metal Repair Handbook

Folder gives full information on Smooth-On No. 7B Quick Floor Patch Cement. With it we'll send you the famous 40-page Smooth-On Repair Handbook, full of time-saving, money-saving repairs on plant and home equipment. Send now.

SMOOTH-ON MFG. CO., DEPT. 10
570 Communipaw Ave., Jersey City 4, N. J.

Do it with SMOOTH-ON QUICK FLOOR PATCH CEMENT

For more details circle NED-3708 on enclosed inquiry slip

HALLOWELL

Steel Collars

HALLOWELL Solid Steel Collars functionally proportioned throughout . . . precision-machined so faces run perfectly true . . . are beautifully polished all over . . . yet they cost less than common cast iron collars. 3" bore and smaller are made from Solid Bar Stock. To make sure the collar won't shift on the shaft, they are fitted with the famous UNBRAKO Knurled Point Self-Locking Socket Set Screw — the set screw that won't shake loose when once tightened. HALLOWELL . . . a "buy word" in shaft collars . . . available in a full range of sizes for

IMMEDIATE DELIVERY

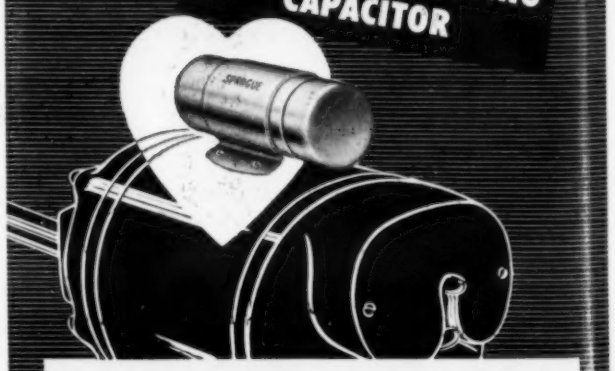
Write for name and address of your nearest HALLOWELL and UNBRAKO Industrial Distributors.

OVER 47 YEARS IN BUSINESS

SPS STANDARD PRESSED STEEL CO.
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-3709 on enclosed inquiry slip

The HEART of the START is a SPRAGUE A-C MOTOR-STARTING CAPACITOR



For day-in, day-out reliability . . . for freedom from costly service and complaints — Specify Sprague A-C motor-starting capacitors!

Available in metal and plastic cases. Capacitance ratings for motors as high as 7½ horsepower. Write for free catalog.

SPRAGUE ELECTRIC COMPANY
North Adams, Massachusetts

PIONEERS IN ELECTRIC AND ELECTRONIC DEVELOPMENT

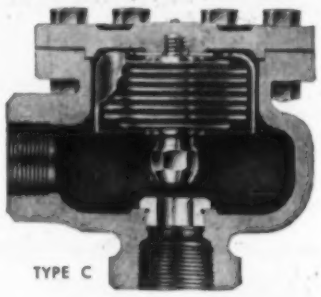
For more details circle NED-3710 on enclosed inquiry slip

Nicholson Steam Traps Feature

MAXIMUM AIR VENTING

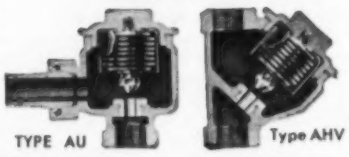
for Faster Steam Transfer

Substantial evidence of the venting effectiveness of Nicholson steam traps is their wide recommendation for eliminating non-condensible gases, as well as condensate, in such equipment as jacketed kettles. Other Nicholson features: operate on lowest temperature differential; 2 to 6 times average drainage capacity.



5 Types for Every Plant Application

Process, heat, power. Size ¼" to 2"; pressures to 225 lbs.



BULLETIN 450 or see Sweet's

W. H. NICHOLSON & CO. 162 OREGON ST. WILKES-BARRE, PA.

Sales and Engineering Offices in All Principal Cities.

For more details circle NED-3711 on enclosed inquiry slip

JUST A HANDFUL

for D-C Motor Control from A-C Lines

This compact, lightweight, easily mounted and wired motor speed control is the ideal means for practically instantaneously starting, stopping and reversing 1/20th h-p d-c motors when operated from a-c lines. Any standard motor can be used. No derating is necessary. The Type 1701 VARIAC Motor Speed Control gives perfectly smooth variation in speed over a range of over 15 to one. The very low torque pulsation and the extra-good speed regulation provided with these new controls offer many possibilities of improved operation of fractional horsepower motors in Industry. For complete details

WRITE FOR "VARIAC MOTOR CONTROL BULLETIN"

GENERAL RADIO CO.

Cambridge 39, Massachusetts

NEW YORK CHICAGO LOS ANGELES

For more details circle NED-3712 on enclosed inquiry slip

Move AIR Gases and Light Solids

through SPIRATUBE Flexible Tubing

Diameters to 30 inches

SPIRATUBE . . . the new *flexible tubing* . . . works efficiently both ways . . . *blowing* . . . *exhausting*.

A zephyr or a gale . . . you put air where you need it with SPIRATUBE. And SPIRATUBE-R's neoprene rubber cushion rides with the punch of abrasive solids. *It's the new conveying tube of industry.*

Every advantage you want . . . bends at any point . . . no ridges inside to obstruct air passage . . . light and easy to carry . . . quick to connect . . . extra strong . . . safe . . . retracts for easy stowage.

Let's discuss your problems . . . no obligation. New Engineering Catalog available. Send for your copy today.

Send for your copy today.

S-K-4

FLEXIBLE TUBING CORPORATION

MADE IN U.S.A.

SPIRATUBE® *REG. U.S. PAT. OFF.

Box 149F

BRANFORD, CONNECTICUT, U. S. A.

For more details circle NED-3713 on enclosed inquiry slip

New Processes & Materials

BRASS PRICE CALCULATOR shows correct delivered prices

This slide-window type calculator shows at glance price per pound of high brass 70%, low brass 80%, rich low brass 85%, commercial bronze 90% and gilding metal 95%. Indications cover strip from 16 to 35-gage B & S, and correct delivered prices of quantities from 1 to over 30,000 lb can be computed. Handy conversion table which shows relation of gage numbers to inches is printed on face of rule. New slides for rule will be distributed whenever subsequent price changes make this necessary. Obtainable from **Volco Brass & Copper Co.**, 200 Boulvard, Kenilworth, N. J.

For more details circle NED-3714 on enclosed inquiry slip

TUMBLING BARREL MATERIAL can be sawed or drilled readily

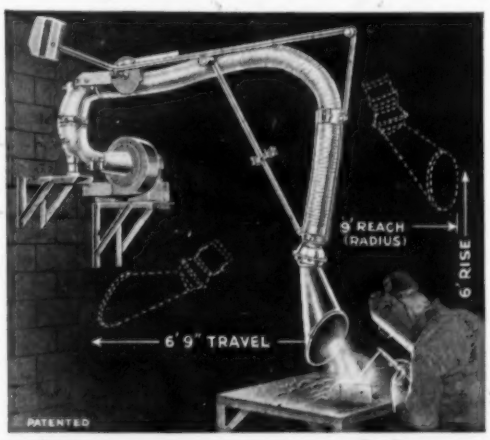
Recommended for making complete barrels or use as lining for tumbling barrels made of other materials, Tumb-L-Dur has high resilience, does not warp and has strength approaching that of steel. It is suitable for use with either wet or dry tumbling processes, and it need not be kept under water when not in use. In addition to properties mentioned above, this material also has high abrasive resistance. Made by **Lupomatic Industries, Inc.**, 4511 Bullard Ave., New York 66, N. Y.

For more details circle NED-3715 on enclosed inquiry slip

THERMOPLASTIC is corrosionproof and easily molded

Fluorocarbon-type thermoplastic, Kel-F, will withstand temperatures up to 390° F, has high dielectric strength and other good electrical properties. Chlorine atom included in formula makes product readily moldable by such standard methods as injection, transfer, compression and extrusion. Illustration shows plasticized O-ring made from extruded rod heat-sealed at butt ends, compression-molded packing ring, convex and concave wedge rings and Kel-F-jacketed rubber gasket that combines resiliency of rubber with resistance to corrosives. Other applications include hose-lining, centrifugal pump shaft packing, high-temperature radio hookup wire coating, hermetically-sealed transformer terminals, pump diaphragms, U-cups, and other chemical processing and electric uses. Made by **M. W. Kellogg Co.**, 227 Broadway, New York 7, N. Y.

For more details circle NED-3716 on enclosed inquiry slip



RUEMELIN Fume Collector

Removes Welding Fumes at the Source . . .

Why continue to let your employees inhale welding fumes? You can solve the problem quickly and efficiently by installing a Ruemelin Fume Collector. It produces a powerful suction that draws out noxious gases, smoke and heat at the source. Guards employee health, resulting in less welder fatigue, therefore, greater plant output. Clears shop air with minimum loss of building heat. Covers maximum welding area vertically, horizontally and by circle swing. Shipped assembled, easy to install. 9 ft. and 15 ft. sizes (radius of swing).

Free engineering service for your fume collector installation. Write for New Bulletin 37-D.

RUEMELIN MFG. CO.

3883 N. PALMER STREET MILWAUKEE 12, WIS., U. S. A.

MANUFACTURERS AND ENGINEERS — SAND BLAST AND DUST COLLECTING EQUIPMENT — WELDING FUME COLLECTORS

A 5258-¼R4

For more details circle NED-3717 on enclosed inquiry slip

A Typically Sanitary Washroom . . . with BRADLEY DUO-Washfountains

In keeping with the glazed tile walled lavatory and toilet room in the new United Air Lines' maintenance base, San Francisco, Bradley wall-type DUO-Washfountains add an *extra* sanitary feature.

FOOT-CONTROL

Being foot-controlled and without faucets, hands touch nothing but the running spray of clean water. The self-flushing bowls guard against collection of contaminating water.

Bradleys will add this sanitary feature to your washrooms, also. Write for Bulletin K-711.

BRADLEY WASHFOUNTAIN CO., 2253 W. Michigan St., Milwaukee 1, Wis.

BRADLEY Duo washfountains

Distributed Through Plumbing Wholesalers

For more details circle NED-3718 on enclosed inquiry slip

B.F.Goodrich

TW TIRE AND WHEEL ANALYSIS PLAN

Studies prove savings can be made in 2 out of 3 cases. Proper tire maintenance alone can cut costs up to 20%

CUT tire & wheel costs up to 50%

Here's how you can save up to half of your materials handling and industrial handling tire and wheel costs. The TW Analysis determines: correct type and size of tire, correct tread design, correct tread rubber compounds *and applies all correct factors to the specific job.*

Here's how it works—A man trained in materials handling problems will survey your operation, study loads, hauls, handling equipment, floors and hauling surfaces, also any special problems you may have. On completion of this survey the BFG man, without charge or obligation on your part, will recommend the best type and size tires and wheels for your particular service, including suggestions on tire care and maintenance.

Here's why BFG can be impartial—No other company offers the wide range of types or sizes of tires and tread compounds as B. F. Goodrich. Your BFG man has no axe to grind, his company "makes 'em all" . . . his advice is impartial!

14 types of tires 6 different tread compounds!

BFG's complete line of industrial tires includes pneumatics, puncture-sealing inner tubes, solids (all types) and Zero-Pressure semi-pneumatics. There's a wide choice of tread designs and a choice between 6 different tread rubber compounds including the famous oil-proof compound.

The B. F. Goodrich Co.
Department TW-46
Akron, Ohio

Please give me additional information on your new Tire and Wheel Analysis plan.

Name_____
Title_____
Company_____
City_____ State_____

RESEARCH KEEPS B.F.Goodrich FIRST IN RUBBER

Mail the coupon for full details at no obligation. A SIMILAR PROGRAM IS NOW READY FOR MANUFACTURERS OF INDUSTRIAL HAULING EQUIPMENT

For more details circle NED-3719 on enclosed inquiry slip

Cut Production Costs on small Precision Parts with Atlas 10" Lathes

Handle the work big lathes can't do economically

The low-priced Atlas "Quick-Change" 10" Lathe is tops in the shop —for precision work and economy. With 10" swing (6⅝" over carriage), 24" and 36" between centers, and 16 spindle speeds from 28 to 2072 RPM, it has the capacity for most small parts operations — and it's much cheaper to run than bigger lathes.

Instant selection of 54 threads and feeds saves set-up time, speeds production. And with its heavy, massive construction, precision-ground ways, and Timken Tapered Roller Bearings, the Atlas is an accurate, smooth-operating lathe that is ideal for both 'round-the-clock production and tool room use.

Atlas standard 10" lathes start at $212.00 F.O.B., Kalamazoo — "Quick-Change" at $272.00. Send for latest catalog with complete facts.

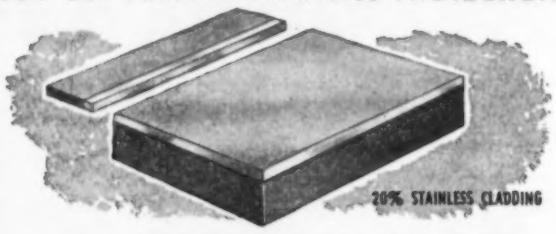
ATLAS PRESS CO.
523 N. Pitcher St., Kalamazoo, Mich.

MATCHED PRECISION TOOLS FOR WOODWORKING AND METALWORKING

▲ For more details circle NED-3720 on enclosed inquiry slip ▲

NOW! REDUCE MATERIAL COST

BUT GET PERFECT STAINLESS PROTECTION



with PERMACLAD

STAINLESS CLAD STEEL

PERMACLAD combines the surface characteristics of stainless steel with the forming qualities of carbon steel. It permits you to improve your products, provide corrosion resistance and cut forming costs. You can cold form PERMACLAD with ease—subject it to deeper draws without intermediate annealing—actually form it into products impossible with many other materials.

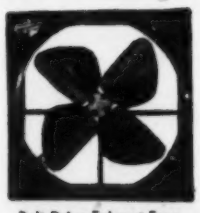
Hundreds of products from chemical and food processing equipment to automotive bumpers and show cases are being fabricated from PERMACLAD. Write for more information and FREE 8-page technical data folder P-5.

ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PA.

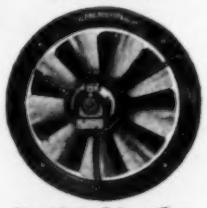
▲ For more details circle NED-3721 on enclosed inquiry slip ▲

FANS

for Every Air-Moving Job!



Belt-Drive Exhaust Fans
24- to 48-inch



Direct-Drive Exhaust Fans
12- to 30-inch

It will pay you to fan-plan with America's most complete line of direct- and belt-drive Exhaust Fans, Air Circulators, Ceiling Fans, and Oscillators . . . built to give you more *service* with less *servicing!* Select the fans you need now. Prepare for the hot months ahead.

See your electrical contractor, or write today for your free guide to the selection of Exhaust and Ventilating Equipment, Bulletin No. 541.

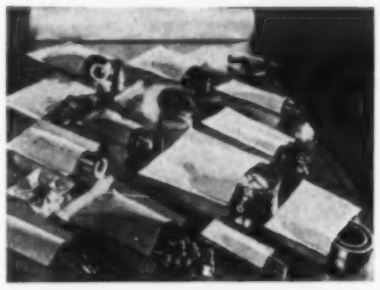
THE EMERSON ELECTRIC MFG. CO.
St. Louis 21, Mo.

EMERSON ELECTRIC
MOTORS • FANS APPLIANCES

▲ For more details circle NED-3722 on enclosed inquiry slip ▲

New Processes & Materials

HEAT-SEALABLE PLASTIC BAGS afford moistureproof protection



Being completely moistureproof when heat-sealed, plastic-laminated bags protect surfaces, eliminate rust and minimize breakage of delicate instruments, machined products, bearings and other industrial products in storage or transit. Bags are made in wide range of sizes and can be furnished fabricated from polyethylene only or polyethylene laminated to foil, Kraft or cloth-backed foil. In addition, bags can be supplied with printed trademarks, serial numbers, parts numbers, shipping instructions or order numbers.

Bags retain flexibility at temperatures as low as −40° C, are not susceptible to humidity changes, are non-toxic, will not support growth of mold and are unaffected by ultraviolet light. They withstand salt water; solvents and sulphuric, hydrochloric, nitric and hydrofluoric acids. Made by **Munson Bag Co.,** 1390 W. 117th St., Cleveland 7, O.

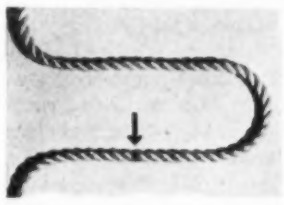
▲ For more details circle NED-3723 on enclosed inquiry slip ▲

NONWRINKLING PASTE is water soluble and easy to apply

Paper, paperboard and other porous materials are firmly and permanently fastened by Flexiflat water-soluble paste. It is recommended for mounting photographs, tipping greeting cards and calendars, binding sample books and for general office or industrial use. Plasticized adhesive has no pulling action on paper and dries without causing wrinkles, ridges or imperfections. Made by **Paisley Products, Inc.,** 1776 Canalport Ave., Chicago 16, Ill.

▲ For more details circle NED-3724 on enclosed inquiry slip ▲

PREMEASURED ROPE is marked in red at 10-ft intervals



Factory marked in red at regular intervals, this premeasured rope enables user to determine how much rope he has on hand. Rope is packaged in self-contained carton on which size, weight and brand are clearly marked; and dustproof container assures buyer of clean identifiable rope at all times. Made by **New Bedford Cordage Co.,** Ash St., New Bedford, Mass.

▲ For more details circle NED-3725 on enclosed inquiry slip ▲

QUENCHING OIL has flash point of 560° F

Recommended for quenching steel in 300° to 500° F temperature range, Thermo-Quench quenching oil has stability and speed that make it particularly adaptable for use in conjunction with gas cyaniding and carburizing furnaces. It has viscosity of 150 seconds at 210° F, high resistance to oxidation and in appearance and color is similar to light green fluorescent high grade motor oils. By using it, casing in atmosphere furnaces can be combined with isothermal quenching. Made by **Park Chemical Co.,** 8076 Military Ave., Detroit 4, Mich.

▲ For more details circle NED-3726 on enclosed inquiry slip ▲

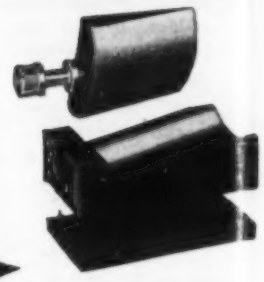
MOLDED PLASTIC PARTS fabricated to close specifications

General-purpose and low-loss dielectric molded phenolic plastic products for electrical and electronic industries can be supplied in black, white or color for specific product identification. They can be furnished as molded pieces; as subassemblies with staked, eyeletted or stitched metal parts or as complete assemblies of molded plastic and small metal parts. Facilities include product design as well as design and production of required molds for use with automatic high-speed rotary and multiple flat-press equipment. Made by **Sylvania Electric Products, Inc.,** Parts Div., 218 East St., Warren, Pa.

▲ For more details circle NED-3727 on enclosed inquiry slip ▲

NEW Empco JACK Gives you Quick Accurate Machine Leveling and it ABSORBS VIBRATION

New type JACK greatly reduces noise and vibration with VI-SORB Mounting Pads.



VI-SORB Mounting Pads

The combination of a new Empco Jack and VI-SORB is a long step forward in setting and keeping power-driven equipment level while combating the destructive forces of vibration.

Empco Jacks are self-aligning to give you the quickest, easiest, most accurate machine leveling ever known.

For precise machine leveling and maintenance you will save time and money if you use Empco Jacks with VI-SORB Mounting Pads. Write for complete information and prices today!

Remember: A level machine—kept on the level—does better work and lasts longer.

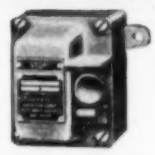
EMPCO PRODUCTS

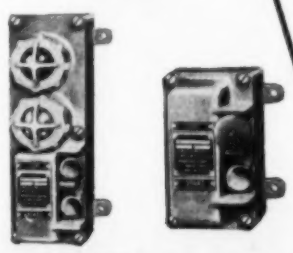
THE ENTERPRISE MACHINE PARTS CORPORATION
2727 JEROME AVENUE • DETROIT 12, MICHIGAN

▲ For more details circle NED-3728 on enclosed inquiry slip ▲

R&S PUSH BUTTONS PILOT LIGHTS

Complete Line EXPLOSION-PROOF Class 1, Groups C & D





Meet ALL Standards PLUS

HEAVY DUTY and standard duty types.
RUGGED INTERIORS with up to 5 point silver to silver contacts.
ROCKER ARM ACTUATING MECHANISM with silicone coated stainless steel shaft for permanent free operation.
EXTENDED MUSHROOM HEAD for quick selection and operation.
CORROSION RESISTANT baked enamel finish.
SMALL . . . suitable as components for machine applications.
GROUP ASSEMBLIES in compact, panel form for economical field installation.
TYPE FS waterproof units.
TROUBLE-FREE, safe performance in hazardous locations insured by 48 years of design and manufacturing experience.
Write for catalog H47-15

A3

RUSSELL & STOLL COMPANY, INC.
Precision-Built Electrical Equipment
125 BARCLAY STREET, NEW YORK 7, N. Y.

▲ For more details circle NED-3729 on enclosed inquiry slip ▲

2 New ELECTRODES for WELDING CAST IRON

MIXEND 99 For welding most grades of gray iron

MIXEND 60 For welding gray iron high in phosphorous

Here are 2 easy-to-use electrodes that produce sound, high strength, and *machinable* welds. No change in present welding equipment necessary because they operate on both AC and DC. And if you have to weld steel to cast iron, these MIXEND electrodes do it effectively. Both types available in sizes 3/32", 1/8", 5/32" and 3/16" from nearby distributors. Also a complete line of stainless, alloy and non-ferrous electrodes. Write for Application Data Bulletin 1049

Arcos Corporation
1500 South Fiftieth St.
Philadelphia 43, Pa.

WELD WITH ARCOS

Specialists in Stainless, Hydrogen-Controlled and Non-Ferrous Electrodes

▲ For more details circle NED-3730 on enclosed inquiry slip ▲

NOW A WIDE RANGE OF AIR PRESSES

Cut Costs...

These presses deliver from 4 to 28 times the air line pressure, cost from $27.50 to $135.00, and will pay for themselves many times over in faster, more uniform production on light staking, crimping, assembling jobs. Write for new catalog of air cylinders and other air-operated devices.

MEAD SPECIALTIES COMPANY
4114 NO. KNOX AVE., Dept. NA-50, CHICAGO 41, ILL.

For more details circle NED-3731 on enclosed inquiry slip

MICROCASTING
Eliminates Special Tooling
Estimated Saving 75%

BY using MICROCAST PROCESS to produce this alloy steel rocker arm for packaging machinery, the manufacturer saved an estimated 75% over conventional production methods.

The MICROCAST PROCESS of precision casting may very well be the way to important savings for you. As cast, Microcastings are structurally sound, dimensionally uniform, requiring virtually no machining. Write today for full information.

MICROCAST DIVISION
AUSTENAL LABORATORIES, INC.
224 East 39th Street, New York 16, N. Y.
715 East 69th Place, Chicago 37, Illinois

Write for FREE 16-page Booklet.

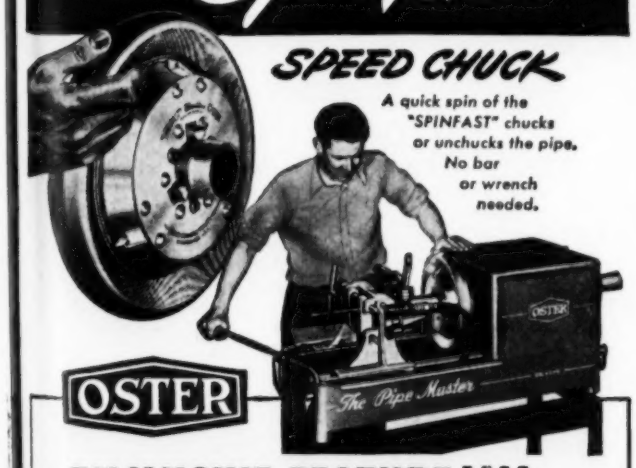
MICROCAST PRECISION CASTINGS PROCESS

MICROCAST T. M. REG. U. S. PAT. OFF.

For more details circle NED-3732 on enclosed inquiry slip

OSTER "Spinfast"

SPEED CHUCK



OSTER

EXCLUSIVE FEATURE!!!!

It's FASTER... It's SAFER to chuck and unchuck pipe or conduit with the "SPINFAST" Speed Chuck... an EXCLUSIVE and patented feature of Oster threading machines Nos. 502, 502D "Pipe Master", No. 582 "Tom Thumb" and Nos. 702 and 782 "Rapiduction Jr."

These modern power threaders have a standard range of ¼" to 2" pipe; bolt range ¼" to 1½".

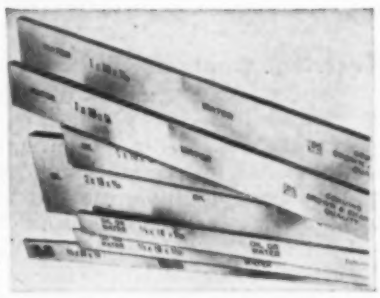
Write for new CONDENSED CATALOG for more details on the outstanding features of Oster portable and floor type threading machines.

THE OSTER MANUFACTURING CO.
2066 EAST 61st STREET • CLEVELAND 3, OHIO, U. S. A.

For more details circle NED-3733 on enclosed inquiry slip

New Processes & Materials

TOOL STEEL
ground flat stock in 16 sizes



Widths up to 6 in., all 18-in. long, are obtainable in this tool steel which is accurately ground to thickness tolerance of 0.001-in. All sizes 3/16-in. and under in thickness can be hardened in both oil and water. Thicknesses from 7/32 to 1-in. are available for hardening in either oil or water only. Pieces have smooth edges and are marked as to type at intervals throughout their entire length. They are packaged in individual envelopes, colored for quick identification. Made by **Brown & Sharpe Mfg. Co.**, Dept. 43, Providence 1, R. I.

For more details circle NED-3734 on enclosed inquiry slip

SELF-ADHESIVE TAPE
affords economical marking method

Imprinted pressure-sensitive adhesive paper tape is processed in rolls and can be installed in standard dispensers. Low-cost material is designed for applications that do not require superior performance and appearance of Cellophane or acetate fiber tapes. Made by **Topflight Tape Co.**, Dept. MK, York, Pa.

For more details circle NED-3735 on enclosed inquiry slip

MEDIUM TEMPERATURE SOLDER
has bonding temperature of 700° F

Usable on both ferrous and nonferrous metals, EutecRod 155 solder has bonding point below annealing point of most metals and above remelt temperatures of soft solders. Typical application is joining of heat treated parts, especially in pieces which have spring or bellows action and which would be impaired by heat required in use of silver solder. Having remelt temperature sufficiently high to resist heat of baking, solder can be used on parts which must be baked or enameled after finishing. It has tensile strength about half way between that of soft and silver solders, better corrosion resistance than soft solders and excellent wetting properties. Sizes available are 1/16, 3/32 and 1/8-in. Made by **Eutectic Welding Alloys Corp.**, Dept. A-2, 40 Worth St., New York 13, N. Y.

For more details circle NED-3736 on enclosed inquiry slip

PIPE & DUCT INSULATION
is lightweight and easily handled

Consisting of sheet or corrugated asbestos firmly bonded to sheet of pure aluminum foil that reflects 95 per cent of radiant heat, Alfol wrap effectively insulates sheet metal ducts and steam pipes with minimum of bulk. Sheets are fitted to pipes or ducts with slight overlap and are secured by standard insulation bands. Made by **Reflectal Corp.**, Alfol Div., Dept. 806, 155 E. 44th St., New York 17, N. Y.

For more details circle NED-3737 on enclosed inquiry slip

All sizes in suitable materials, all types of registers.

With Empire liquid meters you get exact control over quantities going into each batch. You save time, too,—the meter method being much quicker than weighing, stick gauging or waiting for batch tanks to fill. You cut evaporation losses, reduce fire hazards, prevent contamination. *You save money!* Get full facts now.

Write for Bulletin 621

PITTSBURGH EQUITABLE METER DIVISION
ROCKWELL MANUFACTURING CO.
Dept. E Pittsburgh 8, Pa.

For more details circle NED-3738 on enclosed inquiry slip

GRIPPING FORCE 15 TIMES AIR LINE PRESSURE

Speedy Air Vise helps you do dozens of operations faster, better, cheaper—by air pressure! Foot control valve opens and shuts vise instantly, leaving *both* hands free to produce *more!* Jaw opens up to 3 inches, holds castings, parts, jigs, etc. Compact and trouble-free.

Complete with Foot Control, Air Hose and Fittings.....only **$29.90**

Prompt Delivery from Your Supplier or Write Direct

W. R. BROWN CORPORATION • 5731 Armitage Ave. • Chicago 39, Ill.

AIR REGULATORS • AIR FILTERS • AIR GUNS • PORTABLE COMPRESSORS

For more details circle NED-3739 on enclosed inquiry slip

28 Extension Spring Assortment
Only $5.80 Each
F. O. B. Chicago, Illinois

The Paragon 28 Extension Spring Assortment has been carefully engineered for both General Shop Applications and for use in Development or Experimental Departments.

As Paragon's Engineers have made every effort to overcome the faults of ordinary assortments which seem to contain "every spring except the one needed," their design efforts were not confined to the springs alone; rather, loadings and dimensions were analyzed to assure the user of greater probability in having the correct spring on hand, whatever the application.

All springs 11 inches long, over all (O. D. hooks,) with Hook ends.

Also New . . . "Little Stuff" Assortment

A handy collection of 120 small springs in various sizes and tensions—compression, extension and torsion springs. Not rejects — taken from overruns on regular orders. Only $1, f.o.b. Chicago.

Inquiries invited on your production requirements. No order too small for prompt attention.

PARAGON SPRING COMPANY
4619 West Fulton St., Chicago 44, Ill.

For more details circle NED-3740 on enclosed inquiry slip

REVIEW YOUR COSTS

IN METALWORKING, WOODWORKING, PLASTICS & GLASS PRODUCTS MANUFACTURE

Not until you've used Brightboy can you appreciate the unique, original, smooth-surfacing action that only perfect blending of abrasive and rubber can give—

BURRING • CLEANING • FINISHING • POLISHING
IN ONE OPERATION

ASK YOUR DEALER NOW for the Brightboy Catalog-Manual, listing many time-saving applications. Write the Brightboy Service Department on any production or methods problem where finishing is involved.

WHAT *Abrasive-Plus-Rubber* BRIGHTBOY DOES:

1. Bridges the gap between the rough grind and the buff, frequently in one operation.
2. Works to close tolerances; can be shaped to contour.
3. Produces a wide variety of conventional and special finishes and patterns; frequently the final polish.
4. Requires no before-use preparation or dressing; no skilled labor to handle it.

WELDON ROBERTS Brightboy

BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
NEWARK 7 N. J.

America's Pioneer Manufacturers of Rubber-Bonded Abrasives

For more details circle NED-3741 on enclosed inquiry slip

NOW... Sheet Feeding is EASY ...and SPEEDY!

Now — lessen worker fatigue . . . prevent accidents . . . speed up press and shear work . . . keep your machines at *maximum* capacity . . . with LYON-Raymond Sheet Feeding Tables. The top sheet or strip is kept at press bed level. A pedal-operated hydraulic pump, located near the operator, elevates table. Operator *slides* sheet or strip into position. Tables can be loaded at stock pile and moved from warehouse to press. Available capacities: 2,000, 4,000, 6,000, 10,000 and 20,000 lbs. Tilting tops for inclined bed presses.

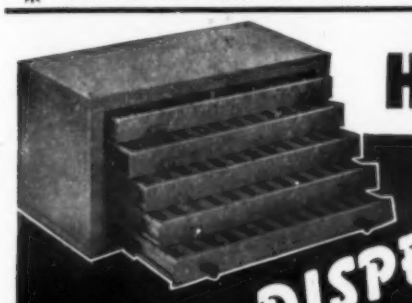
LYON-Raymond Hydraulically-Operated SHEET FEEDING TABLES

Bulletin 261 tells the whole story. Write for it today.

LYON-Raymond CORPORATION
Electric Power Trucks . . . Skid and Pallet Lifts
Hydraulic Elevating Equipment
Positioning . . . Sheet and Die Handling

4128 Madison St. GREENE, N.Y.

For more details circle NED-3743 on enclosed inquiry slip



HUOT DRILL DISPENSER

Eliminates Rummaging Through Stacks of Drills

No more running out of drills—your entire stock can be seen at a glance. Each size of drill has its own compartment with rounded bottom for easy selection. You can store dozens of small drills and several large ones in their own compartments. Built-in prieing or inventory system eliminates the need for cost sheets, and will keep a record of drills on hand. Stack two or three cabinets to save space. *Specifications:* 14½" long, 7¼" high, 7¼" deep. Hammerlin baked enamel finish over rugged steel.

Made in three models for fractional, number or letter drills.

Write for Circular

By the makers of HUOT DRILL INDEX

HUOT MANUFACTURING CO.
571 No. Wheeler St., St. Paul W4, Minn.

For more details circle NED-3744 on enclosed inquiry slip

A 564-Page Authoritative Handbook

TOOL STEEL SIMPLIFIED

Yours for only $2.00 postpaid

Over 100,000 copies in use

Completely Revised!

Which of its 21 data-packed chapters can you use most profitably?...

Part I—Getting Acquainted with Tool Steel
Tool Steel Terms... Analysis of Tool Steel... Soundness and "Personality" of Tool Steel

Part II—Selecting the Right Steel
Alphabetical Tool Steel Selector... along with practical suggestions for selecting the one steel that will perform best, reduce costs

Part III—Properties, Heat Treatment and Testing of Tool Steel
Heat Treating Methods and Equipment (furnaces, fuels, and atmospheres)... Hardness and Toughness Testing (equipment, methods and results)

Part IV—Things Worth Knowing
Relation of Design to Heat Treatment... Hot Acid Etch Test... Timbre Test... Spark Testing... Quenching and Trouble Shooting

CLIP AND MAIL NOW

The Carpenter Steel Company, Reading, Pa. • Dept. 19C-2
Please send me, postpaid, your revised "Tool Steel Simplified". I enclose $2.00 ($2.50 outside U.S.A.) in full payment of the book.

Name..... Title.....
Firm Name.....
Mailing Address.....
City..... State.....
(Please Print)

For more details circle NED-3745 on enclosed inquiry slip

New Literature and Catalogs

Electrical Contacts

Fansteel Metallurgical Corp.—36-page illustrated booklet "Fansteel Electrical Contacts" discusses contact materials, their properties, design considerations and uses. Also described are assembly methods which include riveting, spinning, upsetting, spot welding, projection welding and brazing. Included is glossary of engineering terms and list of symptoms of failure.

For more details circle NED-3746 on enclosed inquiry slip

Oil Purification

Honan-Crane Corp. — Two illustrated bulletins "Oil Quenching" and "Case History of Mechanics Universal Joint Division" present case histories of quench oil purification problems and their solutions.

For more details circle NED-3747 on enclosed inquiry slip

Perforated Metal Grilles

Harrington & King Perforating Co.—48-page illustrated catalog No. 33 presents large selection of ornamental grille patterns. Both classic and modern designs are described as well as special grilles, fixed and movable louvers, grille frames, special panels and enclosures.

For more details circle NED-3748 on enclosed inquiry slip

Radiographic Materials

Eastman Kodak Co., X-Ray Div.—Films for use with x-ray equipment of varying kilovoltage and with specimens of varying thickness and density are described in 16-page illustrated catalog entitled "Materials and Accessories for Industrial Photography." Included is chart on relative speeds and contrast of different x-ray film emulsions which enables radiographer to select material best suited to his needs. Use of intensifying screens is discussed.

For more details circle NED-3749 on enclosed inquiry slip

Portable Hoist

Lincoln Precision Machining Co.—Two illustrated circulars both entitled "Now a Truly Portable Hoist" deal with Lug-All portable hoist which weighs only 8½ lb yet handles loads of up to 1½ tons.

For more details circle NED-3750 on enclosed inquiry slip

Lapping Facilities

Acme Industrial Co.—Available equipment for producing flat and cylindrical lapped parts accurate to within millionths is described in 4-page illustrated bulletin "Precision Manufacturing."

For more details circle NED-3751 on enclosed inquiry slip

Precision Lathes

Louis Levin & Son, Inc.—Precision lathes designed for production of small parts and for fine tool work are described in 4-page illustrated bulletin F. These machines are available in ball and cone bearing models with 5 and 8-mm collet capacities, 12-in. bed length and 3.94-in. swing. Details of collets, slide rest, wheel cutting and milling attachment, traverse grinder and other accessories are given.

For more details circle NED-3752 on enclosed inquiry slip

SPECIAL FASTENER PROBLEM?

Use Our "Special Products Service"

On fastener problems requiring a different type of bolt, nut, screw or pin, "National" fastener engineers can help you find a practical solution.

Even on such highly specialized products as those illustrated above, "National's" wide range of cold heading equipment and specialized machinery make possible economical production.

Call in your nearest "National" representative, or send us your specifications.

National PRODUCTS

THE NATIONAL SCREW & MFG. CO., CLEVELAND 4, O.

For more details circle NED-3753 on enclosed inquiry slip

Can you use DIXIE's new product experience?

- We've learned a lot of angles in 40 years . . .
- That's how long Dixie Manufacturing has been
- engaged in the design and fabrication of sheet
- metals. We are recognized as specialists in
- Stainless Steel Fabrication, and are equipped
- to handle any job, large or small. If new
- product design is your problem, Dixie will work
- with you to insure top-notch production. Dixie
- designers and engineers are available to help
- lick your toughest problems. Why not talk it
- over . . . There's no obligation.

Booklet No. 47-A "STAINLESS STEEL PRODUCTS" is full of ideas for manufacturers. It's free . . . Write for it today.

FREE BOOK

DIXIE MANUFACTURING CO., INC.
1334 RUSSELL ST. - BALTIMORE 30, MD.
Makers of DIXIE Engineered Dust Control

For more details circle NED-3754 on enclosed inquiry slip

with PACITE PLASTIC COVERED HANDLING BASKETS!

Pacite Plastic is smooth, tough and resilient. Will not scratch highly finished parts. It is easy to clean and resists most acids, alkalis and oxidizing chemicals. Pacite covered baskets can be used successfully in degreasers.

We can supply Pacite covered baskets to your present design, or, send us a part and we will design, build and cover one to meet your requirements.

F. D. PACE CO. 69 SCRIBNER AVE., N. W. GRAND RAPIDS 4, MICH.

For more details circle NED-3755 on enclosed inquiry slip

WOW! These Cold-Forged® casters really save money!

For top economy combined with quality, you can't beat Rapistan's exclusive new line of Cold-Forged casters! Cold forging flows steel molecules to points of greatest wear; insures *uniform* strength throughout; provides exceptional durability—at amazingly low cost. Double-ball raceways. Enclosed grease reservoir. Rugged top plate and yoke. 3¼", 4", 5", 6" nicro-steel, rubber or plastic wheels. Models with thread guards. Capacity 140 to 400 lbs.

The RAPIDS-STANDARD COMPANY, Inc.
295 Rapistan Building
Grand Rapids, Michigan

Representatives in Principal Cities

Rapistan® CASTERS AND TRUCKS

CASTERS • HAND AND PLATFORM TRUCKS • OTHER PRODUCTS: CONVEYORS
Power or Gravity, Portable or Stationary

For more details circle NED-3756 on enclosed inquiry slip

Little Machine
BIG JOBS!

Stationary or portable types, 5 or 10 hp. Pulls 5000 or 10,000 lbs., 45 ft. per minute.

Speed Loading - - Unloading of Cars with **LINK-BELT ELECTRIC CAR SPOTTER**

Save time, money and manpower with the Link-Belt Car Spotter that easily does such back-breaking jobs as spotting cars, opening grain doors, warping barges, bending pipe, handling materials. Often repays its cost in saving demurrage.

LINK-BELT COMPANY 11,570-B
Chicago 8, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8. Offices, Factory Branch Stores and Distributors in Principal Cities.

SEND NOW for Book No. 1992-A

For more details circle NED-3757 on enclosed inquiry slip

Before YOU BUY ANY HYDRAULIC JACK

See HEIN-WERNER

the BEST hydraulic jacks for EVERY industrial use

Hein-Werner Hydraulic Jacks are built to give better, longer service at rugged industrial applications. They're made extra strong at points of greatest strain . . . feature the famous Heinite Piston, and are tested at 1½ times rated capacity. They're more economical, more efficient at hundreds of maintenance and production jobs in your plant.

Made in models of 1½, 3, 5, 8, 12, 20, 30, 50 and 100 tons capacity. See your industrial distributor or write us.

Hein-Werner HYDRAULIC JACKS

HEIN-WERNER CORPORATION
WAUKESHA, WIS.

For more details circle NED-3758 on enclosed inquiry slip

VULCAN
ELECTRIC HEATING UNITS

IMMERSION

For Heating Oils, Water, Paraffin, Chemicals, etc. in
TANKS
BOILERS
KETTLES
URNS

Various types of Bolt-on Flanges, and Threaded Bushings.

Single and Three-heat, with metal casings. Complete with gaskets, terminal cover, etc.

VULCAN ELECTRIC COMPANY
DANVERS 7, MASS.
Makers of Electric Soldering Tools, Solder Pots and a wide variety of Heating Elements for assembly into manufacturers' own products and of Heating Specialties that use electricity

For more details circle NED-3759 on enclosed inquiry slip

New Literature—Continued

Heat Exchanger & Condenser Tubes

Babcock & Wilcox Tube Co.—Data which enable one to make an economical choice of appropriate heat exchanger or condenser tubing for specific service conditions are given in bulletin TB-329. Engineering and manufacturing experience is offered to help solve problems concerned with use of this tubing.

For more details circle NED-3760 on enclosed inquiry slip

Pipe Locator & Leak Detector

Fisher Research Laboratory, Inc.—"The M-Scope News" is 8-page illustrated publication containing reprints of three articles dealing with application of M-Scope electronic pipe locating and leak detecting device.

For more details circle NED-3761 on enclosed inquiry slip

Steel Shafts

De Laval Steam Turbine Co., Imo-De Laval Products Div.—20-page illustrated bulletin G-7 is entitled "Useful Data for Determining Stresses, Torques, Bending Moments and Deflections in Round, Square, Hollow, Keyway and Stepped-in Steel Shafts."

For more details circle NED-3762 on enclosed inquiry slip

Low-Temperature Insulation

Great American Industries, Inc., Rubatex Div.—20-page illustrated catalog 37 explains use of Rubatex R-103-S insulation hardboard for low temperature insulation purposes. Detailed information is offered for use by designers and construction engineers in applying this expanded rubber material in buildings and manufactured products.

For more details circle NED-3763 on enclosed inquiry slip

Tube Cleaners

Elliott Co., Lagonda Div.—28-page illustrated bulletin Y-29 is guide to use of tube cleaners for removing scale and other types of encrustation from tubes or pipes in boiler room equipment, oil refineries, process plants, railroad locomotives and other locations. Various types of motors, cutter heads, drills, brushes, operating hose and couplings are described.

For more details circle NED-3764 on enclosed inquiry slip

Electronic Tester

Hickock Electric Instrument Co.—Technical information on new model 209A laboratory size electronic volt ohm capacity milliammeter is given in 4-page illustrated form No. 203.

For more details circle NED-3765 on enclosed inquiry slip

Electric Heating Units

Thermel, Inc.—Details of available electric heating units of open coil, tubular and cast-in type for industrial, commercial and domestic applications are given in 4-page illustrated bulletin D49.

For more details circle NED-3766 on enclosed inquiry slip

Self-Lubricating Bearings

Johnson Bronze Co.—Condensed illustrated 16-page catalog L-5 contains partial listing of more commonly used stock sizes of Ledaloyl self-lubricating bronze bearings which are made by powder metallurgy. Standard, flanged and spherical types are described.

For more details circle NED-3767 on enclosed inquiry slip

LMC fabricated aluminum extrusions

ARE READY FOR ASSEMBLY
—we extrude, form, bend, drill and tap, pierce and finish.*

How can you use LMC *fabricated* aluminum extrusions to help make *your* products better at a saving? Perhaps shapes like those shown here can *work* for *you*.

Tool costs are low
Write today without obligation for our estimates and recommendations

**Alumilite licensee—clear and color anodizing, chemical brightening.*

Shapes That Work

LIGHT METALS CORPORATION
1207 Monroe St., S.W.
GRAND RAPIDS 5, MICHIGAN

For more details circle NED-3768 on enclosed inquiry slip

K-P *Engineered* **WIRE MESH**

SIEVING, SIZING, SEPARATING, STRAINING and FILTERING in ALL INDUSTRIES

Korb-Pettit Wire Mesh is not only first quality in material and workmanship but is engineered for the job involved. Made in all ductile metals, meshes, and weaves, plain or rolled. Also available in abrasion, corrosion and rust resistant metals. *Write for Catalog No. 36.*

KP "Keeps Promises"

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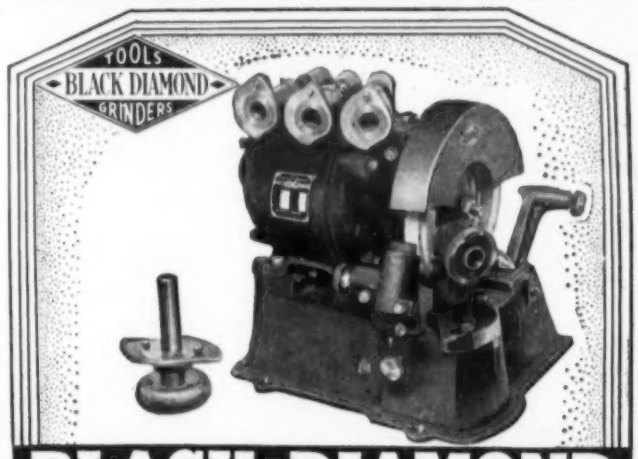
Wire Fabrics & Iron Works Inc.
Engineers and Manufacturers
1501 North Mascher St.
Philadelphia 22, Pa.

Wire Mesh, Spiral Woven Wire Conveyor Belts, Infra-Red Conveyor Dryers, Leather Finishing and Drying Machines, Industrial Wire Partitions, Machine and Window Guards, Cages, Enclosures, Grilles, etc.

For more details circle NED-3769 on enclosed inquiry slip

TOOLS BLACK DIAMOND GRINDERS



BLACK DIAMOND
PRECISION DRILL GRINDER

OTHER FIRMS SAVE 50% and MORE on SHARPENING SMALL DRILLS. WHY NOT YOU?

Black Diamond Grinders cut 50% and more on drill sharpening and drilling costs. They sharpen small drills so efficiently and accurately that drill breakage and work spoilage are reduced to an absolute minimum.

Anyone can operate a Black Diamond Grinder, can keep all small drills sharp—and true centered with smooth lips accurately ground to the same length, correct angle and clearance for fast, precision drilling.

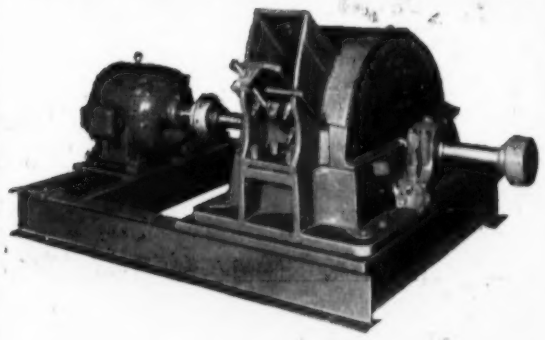
The built-in Diamond Point Dresser, is instantly available to keep the grinding wheel sharp cutting and the Web Thinning Attachment cares for all types of Notched Points.

If you use small drills, singly or in gangs, this moderately priced grinder will keep any quantity of small drills sharp, ready for use. Your shop should own a Black Diamond. Write for New Bulletin.

BLACK DIAMOND SAW & MACHINE WORKS, INC.
NATICK, MASSACHUSETTS

For more details circle NED-3770 on enclosed inquiry slip

M&M DISPOSAL EQUIPMENT

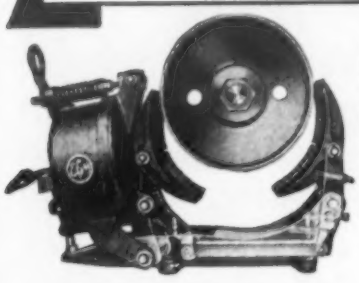


The importance of M & M Disposal Equipment in the woodworking industry cannot be overemphasized. In today's competitive market, the operator must lower production costs by using every available bit of waste. With one or more of these machines, he is equipped to produce economically the secondary products that bring in profits of primary importance. These machines are built in many types and sizes for slabs, edgings, trim, blocks, veneer, bark, and other combustible waste. Write for detailed information stating your problem completely.

MITTS & MERRILL
1000 SOUTH WATER STREET • SAGINAW, MICHIGAN

For more details circle NED-3771 on enclosed inquiry slip

LONG LIFE BRAKES FOR A-C and D-C MOTORS by EC&M



Type WB Brake showing how the motor armature is easily lifted out. At top left is the handle-nut for compressing the spring when removing motor armature, changing brake shoes and for manual control.

The brake lining is molded to match curvature of wheel and shoe.

These Type WB Brakes have a thick, tough block type lining.

The blocks have proper frictional quality **throughout the entire thickness,** permitting uniform and complete wear down to rivet heads. Brake adjustments are infrequent.

Built in several sizes. Supplied with series or shunt-wound operating coils for direct current motors. On a.c. service, they are supplied in shunt-wound form for use with a compact rectifier-unit. Send for Bulletins 1004 and 1006.

THE ELECTRIC CONTROLLER & MFG. CO.
2698 EAST 79th STREET • CLEVELAND 4, OHIO

For more details circle NED-3772 on enclosed inquiry slip

FOTO-FLO MODEL C PHOTO-COPYING MACHINE
New! Speedier! More Economical!

DAYLIGHT OPERATION NO DARKROOM REQUIRED

Makes Up to 5 (18" x 24") Prints a Minute of anything written, printed, drawn or photographed

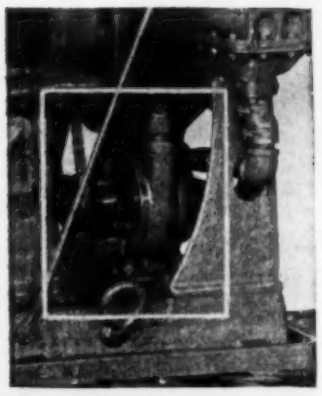
WRITE DEPT. 50-106 for information showing how FOTO-FLO can speed production and lower photo-copying costs.

HALOID THE HALOID COMPANY ROCHESTER 3, NEW YORK
Branch Offices in Principal Cities
Photocopy Papers • Photo-copying Machines • Photographic Papers

For more details circle NED-3773 on enclosed inquiry slip

BUDGET CUTTING is important for *NOW*

No matter what other costs may be zooming, you can keep replacement costs of tools down . . . when you cool tools and work with



"FULFLO" TRADE MARK REG. U.S. PAT. OFF.

COOLANT PUMPS

Photo shows FULFLO pump circulating cooling water of engine built by Universal Motor Co., Oshkosh, Wis.

Pipe sizes from 3/8" to 1 1/2". Right or left rotation. Direct, belt or motor drives.

FULFLO BY-PASS, OIL-RELIEF VALVES

For maintaining constant, uniform pressure. CHATTERLESS. Pipe sizes 1/4" to 2", standard pipe thread. STD 300# American Flange Valves 1" to 2 1/2".

A line on your letterhead will bring you free THE FULFLO MECHANICAL DATA BOOK.

THE FULFLO Specialties Co., Inc.
BLANCHESTER, OHIO

For more details circle NED-3774 on enclosed inquiry slip

New Literature—Continued

Dimensional Control

Dow Mechanical Corp.—34-page illustrated brochure "A Practical Suggestion for Improving Quality and Reducing Cost" explains system for gage control of accurately machined production parts ranging in diameter from 1/16 to 5 in. Precision gages and accessories are described.

For more details circle NED-3775 on enclosed inquiry slip

Construction Air Tools

Schramm, Inc.—Detailed descriptions of pneumatic rock and wagon drills, paving breakers, clay spades, trench diggers, backfill and tie tampers, chain saws, vibrators, hose and accessories are presented in 8-page illustrated bulletin SCT-50.

For more details circle NED-3776 on enclosed inquiry slip

V-Belt Drives

Browning Mfg. Co.—32-page illustrated catalog V-168-A contains engineering data, horsepower ratings and tables of hundreds of practical stock drive combinations using Steel Cable Gripbelts and standard sheaves. Included is stock listing of these V-belts.

For more details circle NED-3777 on enclosed inquiry slip

Work Benches

Standard Pressed Steel Co.—Full information regarding construction, ordering, sizes, available models, bench drawers and tiers, legs, tops and accessories of line of industrial work benches is presented in illustrated bulletin 701.

For more details circle NED-3778 on enclosed inquiry slip

Spiral End Mills

National Twist Drill & Tool Co.—Specifications, list prices and details of Helex short-series fast-spiral end mills are presented in 8-page illustrated booklet.

For more details circle NED-3779 on enclosed inquiry slip

Record Controls

Herring-Hall-Marvin Safe Co.—20-page illustrated bulletin "Improve Record Controls and Reduce Costs" is straightforward presentation of natural filing advantages offered by line of H-H-M rotary record files. Record cards of all types including tabulating cards are readily available in accordance with top index.

For more details circle NED-3780 on enclosed inquiry slip

Small-Lot Stampings

Dayton Rogers Mfg. Co.—Details of typical low-die-cost stampings produced economically in small lots are given in 16-page illustrated bulletin. Case studies are cited to show types of parts which can be produced by this precision piercing and blanking method.

For more details circle NED-3781 on enclosed inquiry slip

Hand Hoists

American Chain & Cable Co., Wright Hoist Div.—Complete details on construction and use of new, compact, efficient Safeway hand hoists are given in 6-page illustrated folder DH-164. Hoists are available in capacities of 1/2 to 4 tons.

For more details circle NED-3782 on enclosed inquiry slip

Flow Meters

Fischer & Porter Co.—New line of mercury manometer type flow meters is described in 12-page illustrated bulletin 37. Direct and remote reading types are available with equivalent range tubes up to 400 in. water column and pressure ratings to 1500 psi. Instruments will measure flow rate of liquids, vapors and gases in piping systems.

For more details circle NED-3783 on enclosed inquiry slip

Mechanical Draft Fans

Buffalo Forge Co.—36-page illustrated bulletin No. 3750 explains construction and applications of mechanical draft fans for inducing draft, forcing draft, eliminating cinders, supplying primary air and other power plant purposes.

For more details circle NED-3784 on enclosed inquiry slip

Air Conditioning

"Niagara Controlled Humidity Method" is 56-page technical treatise on system of air conditioning which uses Hygrol hygienic absorbent liquid. Data enables engineers to determine load conditions and to select sizes and types of equipment. Charts of curves permit quick selection of factors for simplified calculations. Included is Bulkeley psychrometric chart. Price is $2.50. Published by Niagara Blower Co., 405 Lexington Ave., New York 17, N. Y.

For more details circle NED-3785 on enclosed inquiry slip

Dust Control & Recovery

Ducon Co.—Industrial dust control and recovery equipment is described in 12-page illustrated bulletin "Ducon Collectors." Efficiency curves, schematic drawings of industrial applications and other data are given.

For more details circle NED-3786 on enclosed inquiry slip

LONG CARTONS CLOSED IN SHORT TIME

This manufacturer of stretchers cut packing costs with an International Retractable Anvil Staple Machine. The cartons are "wrapped" around the stretchers and the International Machine does the rest. . . . Staples the open side and both ends in seconds. The operator presses the carton against the machine, and a Staple is automatically driven and clinched inside the carton by the ingenious Retractable Anvil.

An International Staple Machine can cut your packing costs, too.

EST. 1938

INTERNATIONAL STAPLE & MACHINE CO.
HAVERTOWN, 2 PENNA.

DISTRIBUTORS IN PRINCIPAL CITIES

For more details circle NED-3787 on enclosed inquiry slip

FREE... 8-Question Check Chart Exposes High Cost Manual Handling

SHOWS WAY TO CUT HANDLING COSTS IN HALF!

Do you know that *manual handling* represents as much as 36% of every production dollar spent?

This excessive cost can be cut down drastically, when the "HIDDEN COSTS" of hand-handling material from receiving, through production and shipping, make way for *mechanized* handling.

The revealing material handling CHECK CHART we offer, enables you to spot "hidden handling" costs in a matter of minutes. When you go over its 8 important questions, you will see why so many important manufacturers are switching to *mechanized* handling with Automatic Electric Trucks.

With these versatile trucks, you can *lift, move* and *stack* material at 50% to 75% *less cost* in man-hours and wages saved, faster production flow, and free storage. Besides, men work *refreshed*, because electric power does the work.

GET THIS IMPORTANT CHECK CHART and cash in on the revealing handling ideas its 8 questions disclose. If you answer "No" to more than 4 of the 8 questions, you will understand why Automatic Electric Trucks can earn your business a real money-making material handling bonus. Write today!

TRADE **Automatic** MARK
61 West 87th Street,
Dept.E-5, Chicago 20, Illinois

Trade **Automatic** Mark ELECTRIC TRUCKS Lighten LIFE'S LOADS

For more details circle NED-3788 on enclosed inquiry slip

Follow the NORTON way... to More Economical Carbide Grinding

CRYSTOLON WHEELS (Green and Grey) in the new K Bond
DIAMOND WHEELS in Vitrified, Resinoid and Metal Bonds

Complete Carbide Grinding Service

1. Product variety to properly handle every carbide grinding job; 2. expert engineering help the country over; 3. two helpful motion picture films; 4. a 138-page handbook on carbide grinding which will be sent free on request — ask for Form 167. ND

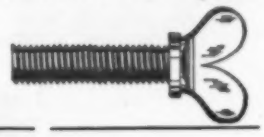
NORTON ABRASIVES

NORTON COMPANY, WORCESTER 6, MASS.

For more details circle NED-3789 on enclosed inquiry slip

THE OHIO NUT & BOLT COMPANY
BEREA, OHIO
OHIO ADJUSTING SCREWS
Range of thread sizes shown for each part.

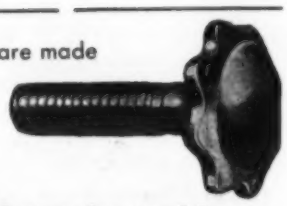
Type ST Thumb Screws are made of steel or brass.
#10-32 to 1/2-20



OHIO DOUBLE-GRIP CLAMP SCREWS

Made of steel
#8-32 to ½-13

Type FS Adjusting Screws are made of steel or brass
#10-24 to ½-13.



For information & samples send to
THE OHIO NUT & BOLT COMPANY
608 FRONT ST., BEREA, OHIO

For more details circle NED-3790 on enclosed inquiry slip

Here is the pair for clean, dry air . .

JOHNSON AFTERCOOLER
Used where moisture is vaporized by the heat of compression. Circulates cooling water around the line, condenses the oil and water vapor so Separator can remove them. Simple in design, highly efficient in performance.

SIZES FOR ALL NEEDS

JOHNSON SEPARATOR
Removes more than 99% of all water, dirt and oil from compressed air or steam. Combines the *two* best principles of separation—first allows air to expand slightly, then changes flow direction with the "Thousand Baffles". Model illustrated is the newest idea in separator design, with self-draining trap mechanism built right in.

WRITE FOR BULLETIN

The Johnson Corporation
812 Wood St., Three Rivers, Michigan

For more details circle NED-3791 on enclosed inquiry slip

Comfort that pays for itself...

Many times over
The *Improved* WILLSON LEATHER MASK SAFETY GOGGLES

The mask of high grade, soft, pliable leather fits any face and head size. And it distributes the shock of impact over a wide area. Fitted with WILLSON Super-Tough* lenses, of course, for maximum eye protection.

FOR DUSTY JOBS *Style DL48*
Indirectly ventilated with four baffled and screened ports in the eyecups. They permit the entrance of air—exclude dust, grit and other flying particles.

FOR HOT JOBS *Style DL31*
Deep eyecups are well perforated to permit free air circulation to reduce fogging. Particularly adaptable for foundry and steel mill operations.

For more complete information about these and other Willson eye and respiratory protective equipment, get in touch with your Willson distributor or write us direct.

WILLSON
"Established 1870"
*T.M. Reg. U. S. Pat. Off.

WILLSON PRODUCTS, INC., 219 WASHINGTON ST., READING, PA.

For more details circle NED-3792 on enclosed inquiry slip

New Literature—Continued

Electric Stairways

Westinghouse Electric Corp.—"The Proved Solution to Modern Business Traffic-Flow Problems" discusses advantages obtainable through use of electric stairways in all types of buildings. In addition to showing actual installations, complete details of design and operation of power stairways are related. Data are given to guide architects and builders in applying stairways and incorporating them in plans for buildings.

For more details circle NED-3793 on enclosed inquiry slip

Cutting Pickling Costs

International Nickel Co.—"5-Way Savings in Pickling" quotes records of equipment and materials used to pickle steel in all forms ranging from sheets and coiled strip to wire and tubing. Methods of reducing costs are cited.

For more details circle NED-3794 on enclosed inquiry slip

Exhaust Fans

Emerson Electric Mfg. Co.—"Emerson Electric Exhaust Fans for Business, Industrial and Institutional Buildings" is 16-page illustrated catalog of direct and belt-drive exhaust fans which also describes window and ventilating fans. Information is given to aid in selection of proper type and size of fan for any requirement.

For more details circle NED-3795 on enclosed inquiry slip

Steam Water Heaters

Davis Engineering Corp.—Paracoil converters for supplying hot water required by hot water radiation or process systems and using steam as heating medium are described in 12-page illustrated bulletin 70 section K. Practical data on sizes, capacities, steam flow pipe size and pressure drop are given.

For more details circle NED-3796 on enclosed inquiry slip

Aluminum Casting Alloy

William F. Jobbins, Inc.—12-page illustrated technical file "Almag 35" lists composition, physical properties, corrosion test data and applications of this aluminum casting alloy. It is available in grades for sand, permanent mold and die casting and has 38,000 to 44,000-psi tensile strength as-cast.

For more details circle NED-3797 on enclosed inquiry slip

Safety Equipment

"Best's Safety Directory for 1950-51" covers entire field of safety, fire protection and control, hygiene, first aid and sanitation. Safety equipment and sources of supply are listed in this 511-page illustrated book. Price is $5. Published by Alfred M. Best Co., 75 Fulton St., New York 7, N. Y.

For more details circle NED-3798 on enclosed inquiry slip

Loading Dock Ramps

Wayne Pump Co.—Hydraulically actuated loading dock ramps which serve to form readily adjusted passageway between loading dock and truck bed are described in 4-page illustrated form No. 826. Easily installed, ramps have standard capacity of 20,000 lb. Platform sizes range from 6 x 8 ft to 6 x 10 ft.

For more details circle NED-3799 on enclosed inquiry slip

Magnetic Coolant Separator

Barnes Drill Co.—16-page illustrated bulletin 300-A lists features and applications of Barnesdril magnetic coolant separators which utilize Alnico permanent magnets to provide continuous cleaning of coolants and cutting compounds. Units are available in capacities of 1½ to 40 gpm and can be used with all types of grinding, honing and polishing machines; machine tools and for oil reclamation.

For more details circle NED-3800 on enclosed inquiry slip

Conveyor Units

Standard Conveyor Co.—Eleven types of Standardized conveyor units are covered in 24-page illustrated bulletin No. 63-A. Booklet includes various types of roller, belt and wheel conveyors for elevating, lowering and horizontally conveying sacks, cartons, boxes and bundles.

For more details circle NED-3801 on enclosed inquiry slip

Cast Iron Pulleys

Sprout, Waldron & Co.—Complete line of Blue-Face pulleys is listed and described in 16-page illustrated bulletin 33 which facilitates quick and accurate reference. Supplementary bulletin 35 tells how belt life can be increased through use of Belt-Saver tail pulley on bucket elevators and belt conveyors. Cone and wing design of this pulley prevents hard abrasive materials from lodging between belt and pulley.

For more details circle NED-3802 on enclosed inquiry slip

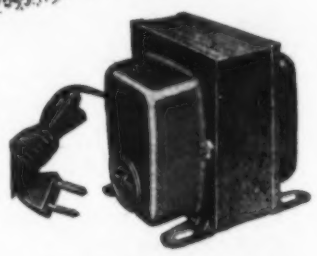
Pneumatic Positioners

Conoflow Corp.—Field of pneumatic positioning devices for throttling control service is covered in 8-page illustrated technical bulletin No. 104. Publication deals with design of these devices, their applications, fundamental principles of operation and features of construction.

For more details circle NED-3803 on enclosed inquiry slip

Where can you use **STEPDOWN TRANSFORMERS?**

Whenever you need a 115 volt AC source of supply and have only 230 volt circuits available, install an Acme Electric Stepdown Transformer. A time saver, a money saver. Available in sizes from 75 watts to 2 KVA. Write for Bulletin.



ACME ELECTRIC CORPORATION
305 WATER STREET CUBA, N. Y.

Acme ACME Electric

For more details circle NED-3804 on enclosed inquiry slip

Way out in front because it's better

4 ways

IMPERIAL Hi-Duty® TUBE CUTTER

The favorite with men who cut tubing. Free Wheeling Ball Bearing Action makes tube cutting faster, better, easier. Makes clean, right angle cut on hard or soft tubing. Has broad range, ⅛" to 1" O.D. Extremely compact, only 4½" long. High strength aluminum alloy body. Imperial quality throughout. Ask for Folder 347.

No. 274-F Hi-Duty Tube Cutter for ⅛" to 1" O.D. Tubing.

The Imperial line of tubing tools is the complete line—a tool for every job. No. 364-F tube bender (above) and No. 193-F flaring tool (below) are illustrated.

See Your Supply House
THE IMPERIAL BRASS MFG. CO., 510 S. Racine St., Chicago 7, Ill.

IMPERIAL

For more details circle NED-3805 on enclosed inquiry slip

For Industrial Plant Water Systems

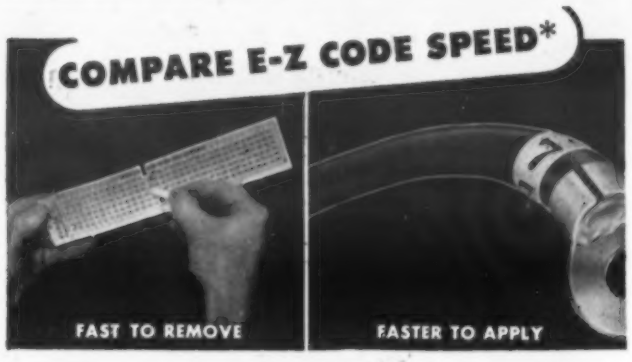
DAVIS No. 21S Pressure Regulator

Is your plant water system protected against the damage that can occur when supply is from high pressure mains or mains that, in case of fire, may be under high pressure temporarily? The Davis No. 21S regulator (illustrated here) is a compact, self-contained unit that is easily installed, requires little or no attention, and stands guard 24 hours a day. For initial pressures up to 150 p.s.i.; set for any reduced pressure from 60 down to 10 p.s.i. Sizes ½" to 2". Bronze body; renewable. Available with lock. Types also offered for higher pressures on dead end conditions. For experienced engineering recommendations, write to Davis Regulator Co.

DAVIS REGULATOR CO.
2531 S. Washtenaw Ave., Chicago 8, Illinois

DAVIS VALVES **DAVIS REGULATOR COMPANY**

For more details circle NED-3806 on enclosed inquiry slip



with any other wire marker or method

Just select the marker you want, pull the unique die-cut Speed Tab and the fabric marker is off! Remaining strips are still protected.

E-Z Code Markers are instantly applied *without moistening*. Stick permanently, even when pulled through conduit. Waterproof, weatherproof. Positive identification for wire, pipe, cable, conduit, terminals, parts, etc. Preprinted in 550 standard codes (including ASA and NEMA) or to your specifications.

***or ECONOMY or VISIBILITY or SIMPLICITY**

Make an on-the-job E-Z Code test

WESTERN LITHOGRAPH CO., DEPT. NEDS
E. SECOND ST., LOS ANGELES 54, CALIF.

For more details circle NED-3808 on enclosed inquiry slip

Cut Drying Time to Minutes...Improve Uniformity

YOU CAN END overbaking, burning of thin sections, and case hardening of outer layers in many drying processes with an Allis-Chalmers dielectric heater.

In turn, you get high speed, uniform drying of a product. For example, rayon cakes dried by Allis-Chalmers dielectric heaters have no damp centers, or overheated outside layers. Result — uniform shrinkage, uniform coloring, better cloth.

Get engineering and cost studies from your nearby Allis-Chalmers Sales Office, or write direct.

ALLIS-CHALMERS, 918A SO. 70 ST. MILWAUKEE, WIS. A-3000

ALLIS-CHALMERS

For more details circle NED-3809 on enclosed inquiry slip

Presenting

The **CVM**

CONSTANT VOLTAGE TYPE MEGGER® INSULATION TESTER

SIZE: 7½" x 5" x 5¾"
WEIGHT: 6½ lbs.

FEATURES

- Constant voltage
- MEGGER cross-coil ohmmeter
- Open, well-proportioned scale
- Available with ohm scale and selector switch
- Ratings up to 50 megohms, 500 volts d-c
- Handsome, durable plastic case
- Strong, plastic-encased, metal carrying handle
- Convenient, fold-away crank
- Light—compact
- Flush, quick-clamp terminals
- Low cost

This handsome addition to the MEGGER family of Insulation and Resistance Testers has wide application in all types of industry. Its modern, streamlined and sturdy design, together with its handy size, make it an ideal instrument for trouble shooting, spot checks and general field use.

For complete information on the CVM Tester, write for our Bulletin 21-80D.

JAMES G. BIDDLE CO.
Electrical & Scientific Instruments
1316 ARCH STREET, PHILADELPHIA 7, PA.

For more details circle NED-3810 on enclosed inquiry slip

New Literature—Continued

Plant Maintenance

"Techniques of Plant Maintenance—1950" is title of 278-page two-volume text which covers proceedings of Plant Maintenance Conference held concurrently with recent exposition. Among subjects covered are maintenance organization and principles; costs; upkeep of lighting equipment, motors, controls and distribution equipment; use of electrical instruments; lighting and color; sanitation; and protection of plant and worker. Priced at $2.00, text is available directly from Clapp & Poliak, Inc., 341 Madison Ave., New York 17, N. Y.

For more details circle NED-3811 on enclosed inquiry slip

Heat Exchange Coils

Binks Mfg. Co.—Illustrated bulletin 41 shows construction and lists dimensions of type D evaporative heat exchange coils which are used singly or in multiples. They will handle wide range of fluids and are available in 17 coil sizes.

For more details circle NED-3812 on enclosed inquiry slip

Drafting Machines

V. & E. Mfg. Co.—34-page illustrated booklet entitled "How to Use VEMCO Drafting Machines" discusses use and ordinary adjustments of standard drafting machine, explains adjustments to meet any particular situation, and contains section on use of civil engineer's drafting machine.

For more details circle NED-3813 on enclosed inquiry slip

Rotary Switches

Electro Switch Corp.—Detailed information on use of multipole snap switches for wide variety of services in control and transfer of electric circuits is given in 12-page illustrated catalog 1950-P. Pictorial circuit diagrams show how contact assemblies combine to provide single-handle control of complex circuits that can be independent or interconnected.

For more details circle NED-3814 on enclosed inquiry slip

Locking Pin

Driv-Lok Pin Co.—16-page illustrated catalog "Driv-Lok, the Pin That Locks" describes fastener made from cylindrical metal stock with four parallel grooves impressed longitudinally on exterior surface. When pin is forced into drilled hole, flutes formed by displaced metal are forced back into grooves to create radial force against hole wall.

For more details circle NED-3815 on enclosed inquiry slip

Nodular Cast Irons

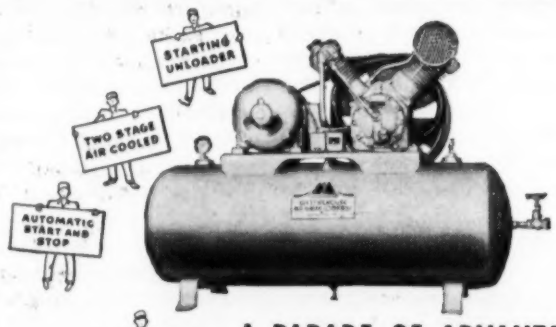
Cerium Metals Corp.—"The Production of Nodular Cast Irons with Cerium—Some Practical Details" is title of 12-page publication which gives details of practice in adding cerium to foundry melt, as developed by British Cast Iron Research Association.

For more details circle NED-3816 on enclosed inquiry slip

Air Cylinders

Rivett Lathe & Grinder, Inc.—Entire line of air cylinders is illustrated and described in 16-page catalog section No. 54. Rabbet, foot, trunnion, center line, blind end flange, rod end flange and clevis types of mountings are covered; and types and models of valves most suited to various applications are recommended.

For more details circle NED-3817 on enclosed inquiry slip



A PARADE OF ADVANTAGES
Westinghouse Air Brake Co.
"Y" COMPRESSORS

All modern features . . . PLUS these vital Points of Protection

Same system as used in modern automotive engines. Positive over-running oil pump "meters" oil to working parts. Exclusive with the "Y".

Compressor will not load (pump air) until oil circulation is established . . . and unless oil level is at proper height. Another "Y" exclusive feature.

Automatic switch cuts power if motor overheats—standard equipment on the "Y".

7.4 to 41.5 CFM displacements . . . 1½ to 10 HP. Ask for Bulletin IDC 9302-3.

Westinghouse Air Brake Co.
Industrial Division: Wilmerding, Pa.
DISTRIBUTORS THROUGHOUT THE UNITED STATES
CONSULT YOUR CLASSIFIED DIRECTORY

For more details circle NED-3818 on enclosed inquiry slip

LIFT OR LOWER—FLOOR TO FLOOR

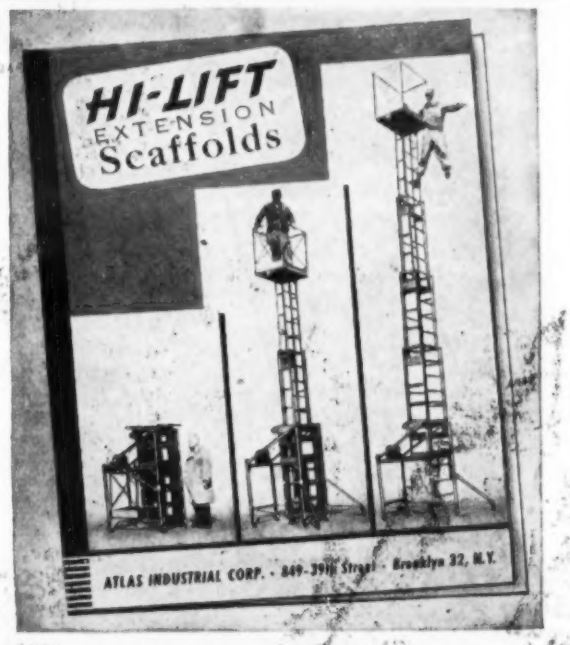
Move boxes, cases, cartons, sacks or bundles from basement to first floor, or any floor to floor — continuously with the Standard Inclinebelt. Compact — simple to install — minimum maintenance and attention. Lifts or lowers 10 to 20 lbs. of live load per ft.; floor elevations of 8 ft. to 14 ft. 6 inches inclusive; two belt widths to handle commodities 15½ inches to 25½ inches wide. Electric motor operated. Write for Bulletin No. NED-50.

Standard Conveyor Company
North St. Paul, Minn.

Sales and Service in Principal Cities

Standard GRAVITY & POWER CONVEYORS

For more details circle NED-3819 on enclosed inquiry slip



Send for this folder!

Describes HI-LIFT Extension Scaffolds which can be extended from a six-foot ladder to a 30-foot scaffold in less than 5 minutes . . . hand or electrically operated. Built to meet individual requirements.

Atlas Industrial Corp.
853 39th St. Brooklyn 32, N. Y.

ALSO MAKERS OF HI-LIFT MARQUEE SERVICER AND ATLAS ONE-MAN TRUCK LOADER

For more details circle NED-3820 on enclosed inquiry slip

NEW! **low-cost, easy-to-install flange-mounted ball bearing unit**

The Fafnir Flangette

incorporating Fafnir Wide Inner Ring Ball Bearing with Self-Locking Collar

Simple, low-cost housing idea. Eliminates costly machining, simplifies maintenance. Pair of pressed steel flanges bolts to any part of machine, provides lightweight, compact, sturdy housing for standard Fafnir Wide Inner Ring Ball Bearing. Fafnir Mechani-Seals both sides. Self-alignment during installation. Write for illustrated folder. The Fafnir Bearing Company, New Britain, Connecticut.

FAFNIR BALL BEARINGS MOST COMPLETE LINE IN AMERICA

For more details circle NED-3821 on enclosed inquiry slip

The SYMBOL of QUALITY for 62 YEARS

WASHERS . . . Standard and Special, Every Type, Material, Purpose, Finish.

STAMPINGS of every Description . . . Blanking, Forming, Drawing, Extruding.

Your most dependable source of supply — the world's largest manufacturer of Washers, serving Industry since 1887. Over 22,000 sets of Dies.

Submit your blueprints and quantity requirements for estimates.

WROUGHT WASHER MANUFACTURING CO.
The World's Largest Producer of Washers
2256 S. BAY ST., MILWAUKEE 7, WIS.

For more details circle NED-3822 on enclosed inquiry slip

$990.- AT THE FACTORY
ONE TON CAPACITY MODEL GC55

The "TOTEMASTER"

POWERED BY A 20 H.P., 4 CYLINDER GAS ENGINE

Indoors or out — this rugged ONE-TON Toter scoots around with loads up to capacity and at speeds up to 20 M.P.H.

- Crosley 4 cylinder engine — 20 HP, CI block — 5 main bearings.
- High compression engine — Ratio 7.8:1. More complete combustion means reduced fuel and less fumes.
- Electric starting. No cranking, therefore operator will stop engine while loading truck. Saves fuel and reduces fumes.
- 3 speeds forward — 1 reverse. Saves strain on engine, increases grade performance with heavy loads. Lowers maintenance cost.
- Two wheel drive — differential. More effective traction. Less wear and tear.
- Water cooled engine — quiet and cooler.
- Hydraulic brakes — airplane type.
- Double handle grip provides one or two hand steering
- When operator leaves seat, parking brake is mechanically applied.

The "MASTER" Line

21 Sq. Ft. of Loading Space, Draw Bar Pull: 1200 lbs.
WRITE for "TOTEMASTER" Bulletin #30

LEWIS-SHEPARD PRODUCTS INC.
302 WALNUT STREET, WATERTOWN 72, MASS.
Midwest Plant: CRAWFORDSVILLE, INDIANA

REPRESENTATIVES IN PRINCIPAL CITIES

For more details circle NED-3823 on enclosed inquiry slip

FOR HYDRAULIC EQUIPMENT

This is THE Folder

Write for it.

DO YOU USE OR EXPECT TO USE HYDRAULIC OIL. PUMPS, MOTORS, VALVES, CYLINDERS ? ?
THEN YOU SHOULD HAVE THIS FOLDER.

THE COMMERCIAL SHEARING & STAMPING CO.
P. O. BOX 719 YOUNGSTOWN 1, OHIO

For more details circle NED-3824 on enclosed inquiry slip

New Literature—Continued

Thermosetting Plastics

Continental-Diamond Fibre Co. — 20-page illustrated catalog DC-50 presents complete data on Dilecto laminated thermosetting plastic developed to meet needs for waterproof electrical insulating material possessing great mechanical strength and adaptability to all fabricating operations. Also covered is Celoron fabric-base laminated and molded thermosetting phenolic plastic.

For more details circle NED-3825 on enclosed inquiry slip

Explosive Rivets

E. I. du Pont de Nemours & Co.—24-page illustrated publication "Du Pont Explosive Rivets" contains complete information on Hi-Speed industrial and aircraft type explosive rivets. Both are simple one-piece fasteners with small carefully centered cavity extending full length of shank and containing small noncorrosive explosive charge.

For more details circle NED-3826 on enclosed inquiry slip

Hot Process Water Softeners

Graver Water Conditioning Co. — 36-page illustrated bulletin WC 102 explains boiler plant troubles caused by various impurities in water, outlines twelve different methods of treating water to eliminate these impurities, discusses advantages of hot-process method, and describes chemistry of hot-process water softening.

For more details circle NED-3827 on enclosed inquiry slip

Vibration Isolators

Korfund Co.—Characteristics of spring, rubber and cork type vibration isolation media are presented in 4-page illustrated bulletin G-102. Fifty typical machine and equipment applications are tabulated with recommendations for proper types of isolators for highest efficiency and with alternates for satisfactory efficiency for less exacting requirements.

For more details circle NED-3828 on enclosed inquiry slip

Industrial Wheels

Dico Corp.—Drop center, demountable rim and lug base industrial wheels in 6 to 18-in. outside rubber diameter are covered in 4-page illustrated 1950 wheel catalog.

For more details circle NED-3829 on enclosed inquiry slip

Care of Storage Batteries

Gould Storage Battery Corp. — 40-page pocket-size handbook of technical instructions and engineering data on care of motive-power storage batteries is written expressly for battery users and maintenance men. In addition to covering theory of lead-acid batteries, guide deals with care and operation, maintenance and repairs, parts, charging, etc.

For more details circle NED-3830 on enclosed inquiry slip

Nickel Alloy Applications

International Nickel Co.—32-page illustrated booklet "Nickel-Containing Materials in Tractors & Farm Implements" discusses increasing use of alloy steels and irons resulting from trend to lighter weight and higher speeds in farm implements. Chemical analysis of AISI and SAE nickel-containing steels employed in farm equipment production is tabulated along with other technical data.

For more details circle NED-3831 on enclosed inquiry slip

BETTER WELDS at LOWER COST with "electrically controlled" AIR POWER

Bellows "Controlled-Air-Power" applied to spot welders assures uniform pressure on electrodes while current is on, and proper "squeeze" while metal cools. . . . Lessens weld failure, gives more welds per hour at lower weld cost.

Model BSM-10 Electrically Controlled Bellows Air Motor is quickly and easily installed on almost all spot welders.

Write for case histories, wiring diagrams. Ask for File 47-280.

ADDRESS: DEPT. NED 550

The Bellows Co.
AKRON, OHIO

"CONTROLLED-AIR-POWER" FOR FASTER, SAFER, BETTER PRODUCTION

For more details circle NED-3832 on enclosed inquiry slip

Torit FB Type Dust Separator

These units are designed to handle large volumes of dust, yet permit the cleaned air to be recirculated into the room. In operation most of the dust is precipitated within the cyclone unit, while the residue is captured by the after-filter bag. Five sizes, from ½ to 5 H. P. are available.

TORIT DUST COLLECTORS
double up to cut costs in this grinding room

This installation started with one Torit No. 81 Dust Collector serving two surface grinders. Economies from this set up were so great that the company bought three more Torit Dust Collectors to replace the wet type central suction system previously used in this grinding room.

Compact and completely self-contained, Torit Dust Collectors fit neatly into present and future production layouts. Set close to the machine and operated simultaneously, they combine top efficiency with low power consumption.

Torit Dust Collectors for all standard grinding, polishing and cut-off machines are carried in stock. Special adaptations can be quickly made. For complete details, and the latest Torit catalog, write:

TORIT
Manufacturing Co.
298 Walnut St., St. Paul, Minn.

For more details circle NED-3833 on enclosed inquiry slip

Aeroquip
REG. TRADE MARK
FLEXIBLE HOSE LINES and DETACHABLE FITTINGS

1. Reduce inventory.
2. Reduce expensive downtime.
3. Permit you to salvage old hose lines.
4. Make possible immediate repair of hose line failures.
5. Eliminate the need for factory assembled hose lines.
6. Permit you to make hose lines to desired length as required.
7. Permit you to replace rigid tubing failures on the spot.
8. Eliminate the need for rigid tubing forms and jigs.
9. Permit you to make hose lines for mock-up installations rapidly.

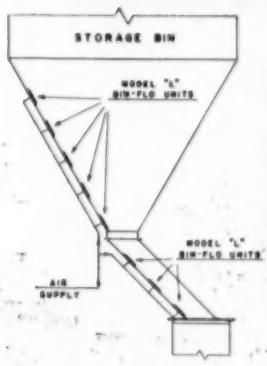
AEROQUIP CORPORATION
JACKSON, MICHIGAN

SALES OFFICES AND WAREHOUSES:
1053 N. Hollywood Way, Burbank, Calif. — 1215 South East Grand Ave., Portland 14, Ore.
2912 N. E. 28th St., Fort Worth 11, Texas — 72-74 Stafford Street, Toronto, Canada
SALES OFFICES:
303 Wareham Building, Hagerstown, Md. — 1419 2nd Ave. South, Minneapolis 4, Minn.

AEROQUIP PRODUCTS ARE FULLY PROTECTED BY PATENTS IN U.S.A. AND ABROAD

For more details circle NED-3834 on enclosed inquiry slip

BIN-FLO

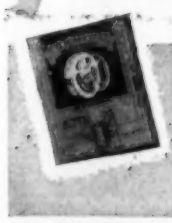


Provides STEADY FLOW of Bulk Materials

New aerating device provides uniform steady flow of most dry finely-ground materials from bins, hoppers, chutes, and silos.

BIN-FLO units are located at points of restricted flow. Low-pressure air supply may be controlled by BIN-DICATORS.

THE BIN-DICATOR COMPANY
14615 E. Jefferson Avenue — Detroit 15, Michigan



Please send new 20-page catalog giving complete information and specifications on BIN-DICATORS. Also please send information on BIN-FLO Aerating Units.

Name_____
Address_____
City_____ State_____
D-5

For more details circle NED-3835 on enclosed inquiry slip

MERCOID

AUTOMATIC CONTROLS FOR HEATING, AIR CONDITIONING, REFRIGERATION AND VARIOUS INDUSTRIAL APPLICATIONS

THE ONLY 100% MERCURY SWITCH EQUIPPED CONTROLS

The distinguishing feature of Mercoid Controls is the exclusive use of Mercoid hermetically sealed mercury switches. These switches are not subject to dust, dirt or corrosion, thereby assuring better performance and longer control life. The items shown below are but a few miscellaneous items. See Catalog No. 700 for the complete line.

If you have a problem involving the automatic control of pressure, temperature, liquid level, mechanical operations, etc., it will pay you to consult Mercoid's engineering staff — always at your service.

Manufacturers of Dependable Automatic Controls for Over A Quarter of A Century

THE MERCOID CORPORATION · 4223 BELMONT AVE. CHICAGO 41 · ILL.

For more details circle NED-3836 on enclosed inquiry slip

POWERFUL VIBRATION SPEEDS FLOW OF BULK MATERIALS FROM BINS, HOPPERS, AND CHUTES

Rapid, hammer-like blows from CLEVELAND Type "F" vibrators assure a steady flow of material from bins, hoppers, and chutes of all types. These powerful vibrators are recommended for moving bulk sand, coal, lime, ore, cinders, slag, steel chips, cement, soda ash, etc.

Low-cost, dependable Type "F" air vibrators are available from stock in six standard sizes for attachment to bins and hoppers having capacities from one to several hundred tons.

CLEVELAND Type "F" vibrators operate at maximum efficiency regardless of mounting position. They are designed for continuous or intermittent operation and engineered for long service life.

WRITE FOR COMPLETE CATALOG AND PRICE LIST.

CLEVELAND VIBRATOR CO.
2745 CLINTON AVENUE
CLEVELAND 13, OHIO

For more details circle NED-3837 on enclosed inquiry slip

INVESTIGATE this Low Cost Way of Handling Drums and Barrels.

ONE MAN HANDLES UP TO 800 POUNDS—WITH A

SABIN BARREL TRUCK

THE JOB SAVES TWO OR THREE HELPERS. You simply run truck up to container, hook on at top, then an easy pull back on handle picks up the load.

THIRD WHEEL FEATURE insures better balance and added safety in moving loads.

WRITE FOR BULLETIN No. 48-A

THE SABIN MACHINE CO.
6536 Carnegie Ave.,
Cleveland 3, Ohio

Type "L-3"

We also make
KEG TRUCKS
PACKAGE TRUCKS
BOX TRUCKS
COIL TRUCKS
SHOP TRUCKS
TOTE PAN TRUCKS

For more details circle NED-3838 on enclosed inquiry slip

New Literature—Continued

Air-Entraining Cement

Universal Atlas Cement Co.—"A Decade of Atlas Duraplastic" is title of 20-page illustrated booklet which traces 1939-1949 period of origin, development and use by construction industry of Duraplastic air-entraining cement. Usable for concrete pavement, structural and mass concrete, block, pipe and drain tile, material resists scaling caused by use of de-icing salts.

For more details circle NED-3839 on enclosed inquiry slip

Aluminum Paint

Aluminum Co. of America—Methods of using aluminum paints to best advantage are explained in 32-page illustrated form No. AD-228. Uses are classified into three sections: for metal, concrete, masonry and similar non-absorbent surfaces; for weather-exposed wood; and for interior heated surfaces and decorative use.

For more details circle NED-3840 on enclosed inquiry slip

Industrial Pumps

Economy Pumps, Inc.—Three publications cover several classes of industrial pumps. Catalog No. E-748 features general services pumps ranging in capacity from 30 to 150 gpm. Mixed flow volute type pumps designed for high speed transfer of liquids that contain light solids are discussed in catalog F-1049. Pumps covered in catalog F-249 are of non-clogging centrifugal type. Having capacity range from 50 to 20,000 gpm, these pumps will pass liquids containing solids having 2 to 10-in. diameter.

For more details circle NED-3841 on enclosed inquiry slip

Corrosion-Resistant Alloys

Union Carbide & Carbon Corp., Haynes Stellite Div.—Four Hastelloy alloys are dealt with in 40-page illustrated brochure "Hastelloy High-Strength Nickel-Base Corrosion-Resistant Alloys." Sections are devoted to telling what they are, how they can be fabricated and how they can be used to combat severe corrosion.

For more details circle NED-3842 on enclosed inquiry slip

Cable Splicing Kits

G & W Electric Specialty Co.—General information on unit splicing kits for all types of cables are given in condensed 4-page illustrated bulletin J50. Data are included to aid selection of unit splicing kits for any type of cable joint. Also available is 8-page illustrated bulletin 50 which furnishes general information on company, its personnel and its growth.

For more details circle NED-3843 on enclosed inquiry slip

Bronze Castings

American Non-Gran Bronze Co.—Contract manufacturing facilities for precision machine work, bronze and centrifugal castings and Non-Gran bronze products are described and illustrated in 16-page booklet "Our Story in Pictures."

For more details circle NED-3844 on enclosed inquiry slip

Industrial Power Tools

Kearney & Trecker Corp., Walker-Turner Div.—36-page illustrated catalog A describes heavy-duty power tools for wood, metal and plastic. Machines listed include band, radial and tilting arbor saws; drill presses; jointers; lathes; and flexible shaft machines.

For more details circle NED-3845 on enclosed inquiry slip

Industrial Marking Tapes

Topflight Tape Co.—Two 4-page illustrated folders entitled "Topflight in Industry" and "Topflight Helps Build Aircraft" deal with imprinted self-adhering plastic tape for marking parts, wires and tubing; for instruction and warning labels; for numbering and coding leads and terminals; and all other forms of identification. Publications tell why and where it is used, who should buy it and what it can do.

For more details circle NED-3846 on enclosed inquiry slip

Bulk Materials Handling Equipment

McNally Pittsburg Mfg. Corp.—Equipment for handling bulk materials such as stone and coal are described in 32-page illustrated bulletin 501. It includes information on and installation photographs of conveyors, car retarders, drives, elevators, pumps, screens and valves.

For more details circle NED-3847 on enclosed inquiry slip

Industrial Elevators

Barrett-Cravens Co.—36-page illustrated bulletin 4951 presents entire line of hand and electric-operated, telescopic, barrel and drum, pallet, platform, four-post and other elevators. Recently developed Hundred Line is covered. These portable elevators are available in three standard models of 500, 1000 and 2000-lb capacity.

For more details circle NED-3848 on enclosed inquiry slip

Heat-Absorbing Window Glass

Mississippi Glass Co.—12-page illustrated catalog "Coolite Glass" is descriptive of this heat-absorbing and glare-reducing window glass. In addition to heat and light transmission tables catalog contains complete specification data and illustrations of typical applications.

For more details circle NED-3849 on enclosed inquiry slip

GAS FLOGUIDE
Low-Cost, pipeline
FLOW METER

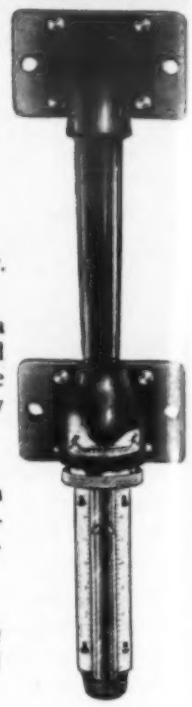


Fig. 483 FLOGUIDE METER

WHAT DOES IT DO?
Indicates gas flow rates accurately.

HOW DOES IT WORK?
A stainless steel "float" moves in a tapered, precision-bore stainless steel metering tube set vertically with the small end down. Instantaneous flow rate is read directly on a scale.

WHAT CAPACITIES?
¾" to 4" pipe sizes. SCFH: Carbon Dioxide—45 to 16,000; Hydrogen—200 to 76,000; and comparable capacities for other industrial gases.

PRESSURE RATINGS?
Primarily designed for low pressure service; can be supplied to withstand 600 psig.

INSTALLATION?
Fits right into the pipeline, and is easily panel-mounted.

MORE INFORMATION? Write for Catalog 47.

FISCHER & PORTER CO. DEPT. OQ-1D HATBORO, PA.

For more details circle NED-3850 on enclosed inquiry slip

DETECTO SCALES

There's a precision-accurate Detecto Scale for your specific weighing and counting need. The Detecto helps increase production, yet assures you maximum accuracy by making slightest weight discrepancies immediately visible.

DETECTO-GRAM NEW PACKING SCALE

Another Detecto-Gram Scale for weighing your ingredients accurately. New Model #8800 brings to your heavy duty weighing jobs the mechanical accuracy previously found only in small scales. Capacity ¼ ounce to 60 lbs.

Write for Literature.

DETECTO · SCALES · INC.
MAKERS OF FINE SCALES SINCE 1900
545N N. PARK AVENUE • BROOKLYN 5, N. Y.
SCALE ENGINEERS IN ALL PRINCIPAL CITIES

For more details circle NED-3851 on enclosed inquiry slip

UNIVERSAL's EZEBILT
Rolling Maintenance Tower

The fastest scaffolding assembly ever devised—to make a rolling maintenance tower (as pictured) or to scaffold a repair job up a high smokestack or building. Basic Ezebilt panel parts are easily interchangeable—and, as shown in the sketch above, can provide exceptional clearance for getting around machinery, fixtures, or furniture.

In the entire Ezebilt assembly, the scaffolding goes up with no loose parts to lose—no tools needed. Disassembles quickly for convenient storage.

Write for nearest distributor—or new Scaffold Catalog

UNIVERSAL MFG. CORP.
108 North Street • Zelienople, Pa.

EZEBILT & LADSCAF Scaffolding, Elevating Towers, Maintenance Towers, Bleachers, Agricultural Equipment, Endlok Scaffolding.

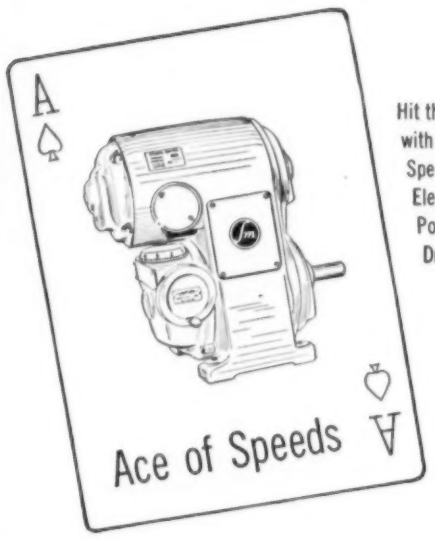
For more details circle NED-3852 on enclosed inquiry slip

SANITIZER AND DEODORANT with emulsifying agent

1 gallon of Brooks Polycide with Emulsite will make up to 50 gallons of strong, active deodorant and sanitizer, depending upon the particular problem. This great economy is possible because the Emulsite provides extremely high reduction in water. Formulation is specifically prepared for use around garbage dumps, trucks, cans, etc., to quell offensive odors and as an effective insecticide. This new material also can be used advantageously as a germicidal spray or liquid wash in public washrooms, corridors, etc., to leave them in a sweet-smelling and sanitary condition. Made by Brooks Boiler Treatment Co., 3304 East 87th Street, Cleveland 4, Ohio.

There are three principal problems faced by engineers in regard to boiler water systems, i.e., scale formation, corrosion and algae deposits. While one engineer may be troubled only by corrosion, yet another may be faced by scale formation and algae deposists or any other combination. That is why each boiler water system requires its own scientific analysis—in order that the technical investigator can recommend and provide the proper remedy. For complete, efficient boiler water treatment, write or call, **Brooks Boiler Treatment Co.**, 3304 East 87th Street, Cleveland 4, Ohio. *Advt.*

For more details circle **NED-3853** on enclosed inquiry slip



STERLING ELECTRIC MOTORS

PLANTS: NEW YORK 51, LOS ANGELES 22, HAMILTON, CANADA—OFFICES IN PRINCIPAL CITIES

Write for Bulletin

SPEED-TROL (Variable Speed) • SLO-SPEED (Geared) • KLOSED (Normal Speed)

For more details circle **NED-3854** on enclosed inquiry slip

NYLON gives this New Abrasive disc-wheel that all-important Extra

SAFE
TOUGH
DURABLE
NON-RIGID
ECONOMICAL

SAF-T-CUT

For rugged weld grinding, Saf-T-Cut disc-wheels have no superior. (Will fit all standard right-angle head grinders and sanders . . . air or electric driven)

BAY STATE

• This unique Bay State product, reinforced with strong nylon cord, is being acclaimed the "hottest" development in the abrasive field. There are definite reasons for such valued recognition when it comes to rough, heavy-duty portable jobs that must be done FAST. Ask for a free demonstration. You be the judge.

BAY STATE ABRASIVE PRODUCTS CO., Westboro, Mass.
Chicago, Cleveland, Detroit, Pittsburgh • Distributors All Principal Cities

MEMBER OF THE GRINDING WHEEL INSTITUTE

Top Performance Consistently Duplicated

For more details circle **NED-3855** on enclosed inquiry slip

New Literature—Continued

Refrigeration Equipment & Components

Harry Alter Co.—172-page illustrated catalog No. 152 contains complete data on all types of refrigeration equipment, supplies, parts, controls and subassemblies. Descriptions and prices are given on all products which include original and replacement parts, compressors, coil units, refrigeration service tools, motors, bearings, gaskets, tubing, fittings, valves, thermostats, etc.

For more details circle **NED-3856** on enclosed inquiry slip

Steel Spoke Wheels

Geneva Metal Wheel Co.—Disk hub constructed steel spoke wheels in diameters up to 20 in. are described in 8-page illustrated bulletin 949. Cast, extruded and tubular hub types with ball, roller and self-lubricating Durex bearings for all types of portable equipment are covered. They can be supplied with steel, semipneumatic, carriage type or pneumatic tires.

For more details circle **NED-3857** on enclosed inquiry slip

Powder Metal Machine Parts

Wel-Met Co.—Twenty-five powder metal machine parts are described in 4-page illustrated booklet No. 103. Publication shows each part, giving material, industrial use, and advantages and savings over previous method of production. Powder metal process is completely discussed as to its advantages and limitations.

For more details circle **NED-3858** on enclosed inquiry slip

Air & Hydraulic Cylinders

Ledeen Mfg. Co.—12-page illustrated bulletin No. 500 gives dimensions and weights as well as ratings and limitations of Medium Heavy and Super Duty line of pneumatic and hydraulic actuating cylinders. Information on selection of cylinders is included along with designs of rod and head attachments.

For more details circle **NED-3859** on enclosed inquiry slip

Woven Wire Screen & Cloth Products

Newark Wire Cloth Co.—64-page illustrated handbook D is comprehensive catalog of data on all types of woven wire screen and wire cloth products. Standard and special weaves, available meshes and other pertinent data are given on steel, brass, copper, bronze, Monel, nickel and stainless steel screen and cloth. Fabricated wire cloth products of every description are covered.

For more details circle **NED-3860** on enclosed inquiry slip

Small Industrial Power Trucks

Hyster Co.—Details of Salsbury Turret pallet, platform, tractor and cargo trucks for handling loads up to 4000 lb are described briefly in 8-page illustrated bulletin. Powered by Wisconsin air-cooled gasoline engine, these machines have automatic clutch and travel up to 8 mph when fully loaded.

For more details circle **NED-3861** on enclosed inquiry slip

Air Purification Cells

W. B. Connor Engineering Corp.—Details of recently introduced type C air recovery or purification cells for reclaiming odorous conditioned air are described in 16-page illustrated bulletin 117-C. These activated-carbon cells are installed and serviced same as standard dust filters.

For more details circle **NED-3862** on enclosed inquiry slip

Laboratory Microscopes

Bausch & Lomb Optical Co.—24-page illustrated catalog D-185 reviews complete line of laboratory-type microscopes. In addition to general data on use of various models, complete specifications and features of each type are set forth. Included is price list and ordering information.

For more details circle **NED-3863** on enclosed inquiry slip

Glass Blowing Equipment

Scientific Glass Apparatus Co. — 48-page illustrated catalog 50 depicts and describes stock laboratory glass blowing equipment. Tools, parts and apparatus are listed and their uses and features detailed. Appended tables give specifications and prices.

For more details circle **NED-3864** on enclosed inquiry slip

Metal Cleaning Materials

Oakite Products, Inc.—44-page illustrated booklet "Some Good Things to Know about Metal Cleaning" reviews all phases of metal cleaning operations. After briefly considering wide variety of soils which result from fabricating operations, booklet discusses specific materials, equipment and procedures for their most effective removal.

For more details circle **NED-3865** on enclosed inquiry slip

Chain Saws

Henry Disston & Sons, Inc.—36-page illustrated handbook is entitled "How to Cut Costs and Make Money with Chain Saws." Entire line of gasoline-engine driven units is covered. They include one-man bow saw, 3.5-hp 18 to 30-in. straight rail type and 12-hp two-man model.

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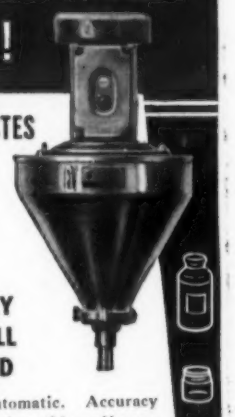

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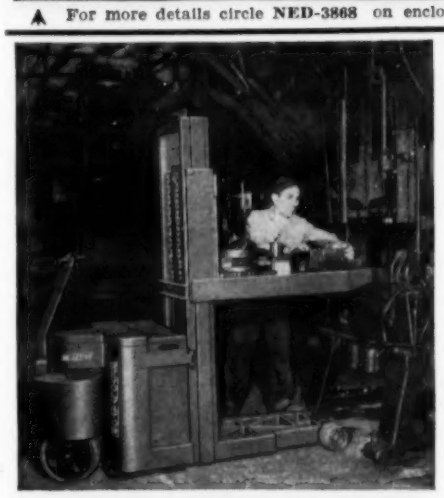

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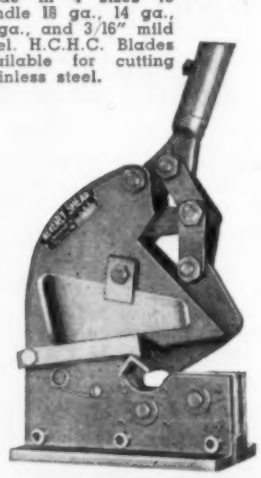

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MAY, 1950

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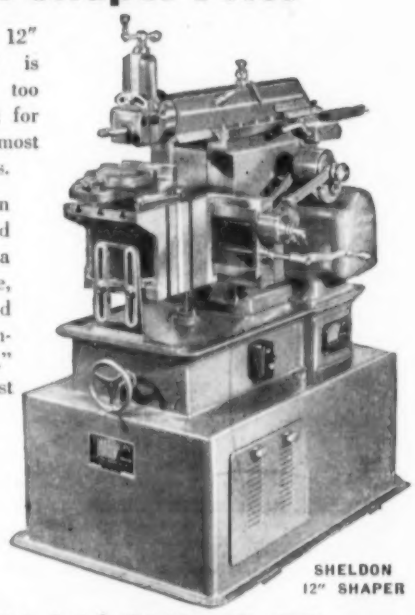

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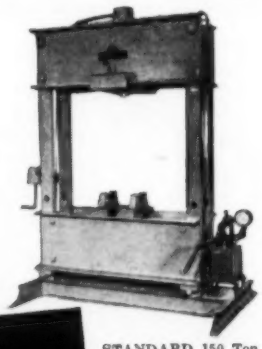

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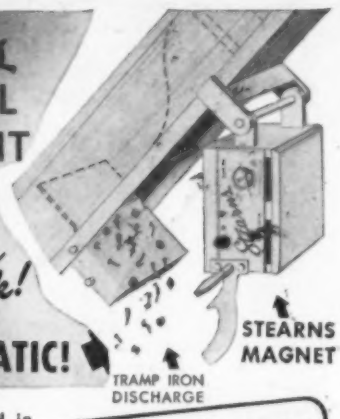

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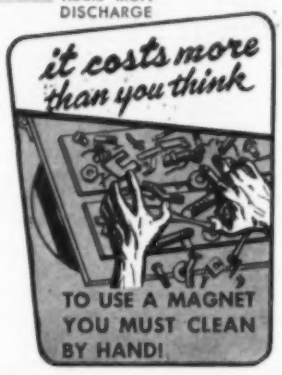

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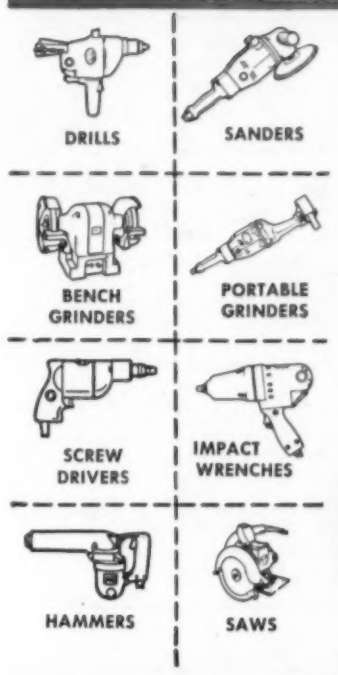

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